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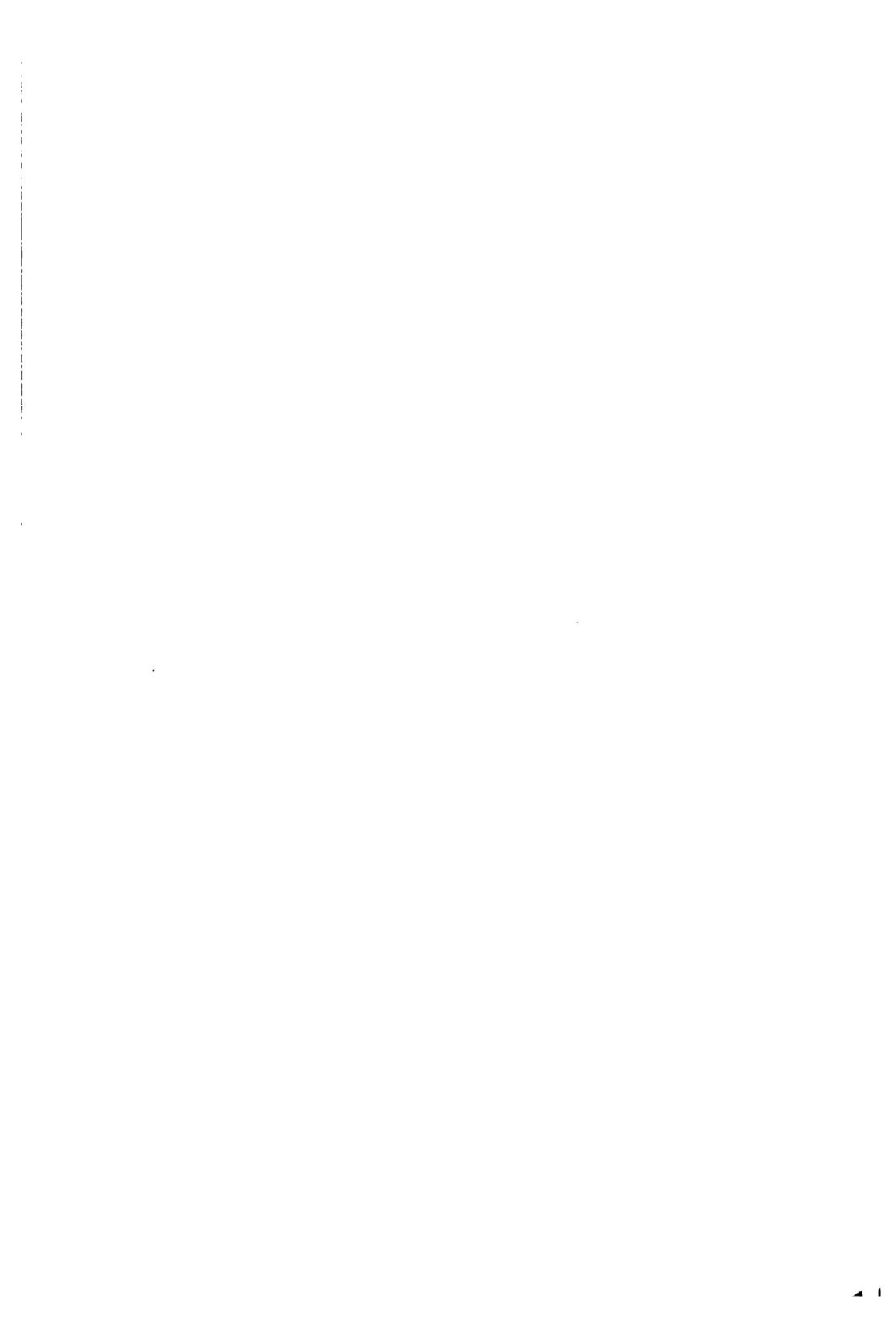
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THE HORTICULTURIST

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Home Gardens.

BY THE EDITOR.

Lawns.

WHERE the occupants of country cottages have not the time or the taste to select and plant out a list of good ornamental shrubs and trees, we think certainly the simplest and easiest method of home ornament is in a good, handsome, well-kept lawn. They are the *promoters of taste*. We believe that if a single individual can once be induced to go as far as the preparation of a really handsome stretch of lawn, he can be induced to attempt further improvements. Mr. Barry, in his recent address on Lawn Making, before the Geneva Horticultural Society, makes this worthy remark :

" I observe where people succeed in making a piece of lawn around their dwelling, their gardening taste improves rapidly ; disagreeable objects become more so, in contrast with the smooth grass, and must be removed ; some choice trees and shrubs are added, perhaps a vase or a basket, or bed of flowers—one object of taste suggests another and another, and thus we make real progress. I see much of this change going on in our own city of Rochester. All around our streets I see charming bits of grass, with brilliant beds and vases of flowers, where a few years ago there was a tangled and unsightly mixture of fruit and shade trees, flowers, long grass and weeds. This change has added immensely to the beauty of our city, and has doubtless added largely to the comfort and enjoyment of the owners, as well as to the money value of their property."

In one of the back numbers of THE HORTICULTURIST, Mr. Saunders, of Washington, gives a very practical recipe for the mixture of grass seed for lawns, and we herewith repeat it.

- One bushel Red Top (*Agrostis vulgaris*).
- Two bushels June grass (*Poa pratense*).
- One quart Timothy (*Phleum pratense*).
- Two pounds White clover (*Trifolium repens*).

These quantities to be mixed and applied to each acre of land.

The usual time of sowing is in March and April, as all well know. We have seen, however, many soils either so poor in vegetable matter, or unsuitable to form a sod, that no amount of grass seed could raise a handsome lawn. In this case it will be far more

simple to dig up grass sods from some old pasture field, or the roadside, to cover the land completely over. If this is done late in the fall, by the next spring the grass will start up fresh and luxuriant, and delight every eye. This is certainly the simplest and least vexatious of all ways of making a small lawn, and it also has the merit of supplying an *immediate want*. A grass sown lawn can hardly be made perfect under two or three years, but a sod lawn is complete the very first season. Liquid manure will be best for use on lawns, pretty thinly diluted. Sulphate of Ammonia, dissolved at the rate of one pound to a barrel of water, is a capital fertilizer. The grass will grow of a rich, dark green, and very luxuriant.

Early Peas.

An experience of several years finds our mind completely satisfied with but one variety as an early pea, and that is the *Landreth Extra Early*. Nothing can as yet equal it in earliness, productiveness or sweetness. The quality is excellent, and no foreign sort has yet proved any better adapted to our climate.

Dahlias.

Our lady readers may desire to plant some good dahlia roots the coming spring. Here is a good selection of twenty-four varieties, sufficient to form a good beginning for any amateur. In our cool fall months the dahlia is our most showy flower, and we esteem it worthy of a place in every flower garden. By some it is considered too gross and coarse, but it has never appeared so to our tastes. It may lack the delicate beauty of the rose, and also its exquisite fragrance, yet its showy bloom and free, flowering habit, with comeliness of plant, are great arguments in its favor.

Prince Albert,	Lady Cathcart,	John Bright,
Fanny Purchase,	Magpie,	Princess,
Silene,	Warrior,	Mantis Saville,
Mr. Burgess,	Wacht an Rhine,	Triomphe de Picq.
Rembrandt,	Lord Derby,	Fair Maid,
Leah,	Caleb Mix,	Charles Turner,
Celestial,	Duke of Roxbury,	Golden Ball,
Madame St. Laurent,	Madame Maria,	Mezard.
Countess de Chambord,		

So many new and desirable varieties appear yearly, that doubtless many in this list would be found surpassed and forgotten in a year or two; but a really choice variety will always deserve planting.

Select List of Monthly Roses.

The following is a good list of select *Monthly Blooming Roses*, recommended by the *Rural Messenger*:

Souvenir de la Malmaison, *Marshal Niel*, *Gloire de Dijon*, *Caroline Merncire*, *Hermora*, *Appoline*, *Purple Crown*, *Archduke Charles*, *Queen of Lombardy*, *Bougere*, *Mrs. Bosonquet*, *Pierre de St. Cyr*, *La Pactole*, *Imperatrice Eugenie*, *Blanche Lafitte*, *Madame Nerard*, *Prince Eugene*, *Isabella Sprunt*, *Marshal Villars*, *La Choice*, *Leteria*, *Gloire de Bordeaux*, *Sir Joseph Paxton*, *Triomphe de Luxemburg*.

Grapes.]

We suppose every cottage gardener has got some grapes well planted in his garden; if not, it certainly is one of the most important subjects that need early attention. It is just as easy to grow a good grape as a poor one, the room occupied is no greater, while the value is often double. For instance, who would grow a *Union Village*, *Scuppernong*

or Adirondac, when the old standard sort, Isabella, far surpasses them; and then, too, this is superseded by the good old Concord or Delaware. A well ripened Isabella is not by any means to be despised. And those dainty palates who declare the Concord is *too poor* to be worthy of encouragement, can hardly act as judges for the tastes of a million others of their countrymen. The Concord is the best and most reliable family grape we have yet found. Not equal, it is true, to some of more delicate or spirited flavor, but *good enough* for average palates.

If we were planting a new garden, we would line the garden path with at least a dozen good vines. The Concord would be first on our list, then we would try one vine Delaware. It might do well, and still might prove a failure. But it is worth the trial. We would have room for a luscious Salem, and also for the Eumelan, beautiful in its growth and flavor. We would not forget the Walter, and the Senasqua we know would prove a good occupant of our ground. Here then we have the cream of all, both old and *new*. We could always depend upon a good dish of fruit from the Concord, and our selection of this variety would be *one-half the whole list*. Then follow with the new and improved sorts, and the garden owner will have all the best worthy of reasonable recommendation.

Strawberries for Family Use.

It is customary for writers on small fruits to say that any good garden soil will grow strawberries. True to some extent; but if we want quantity it is useless to try sandy land. A cold, heavy clay bed is also to be avoided as the other undesirable extreme. On sandy land the berries will be early and usually sweet, but there will never be any heavy crops. On heavy land the crops will usually be late, the fruit will be large, and if the soil is moist or undrained, the berries will be watery and acid. A good soil is a deep, rich loam well drained, and even a sandy loam with considerable vegetable matter is very desirable, since it is warm and early. Let your plants stand not less than eighteen inches apart, and even two feet will be still better. We have tried the plan of three and a quarter by one foot, but became fully satisfied that it was too close, and the more room we gave our plant the increase in vigor and fruit would more than recompense for the difference in distance.

Use old well decomposed barn-yard manure every fall, and cover the bed over completely. Wood ashes, too, are excellent; they contain potash, which is one of the most invigorating of all species of nutriment for the strawberry vines. Fertilizers are occasionally worthy of trial as stimulants. Bone meal is always good. Superphosphates and bone flour are also efficient; scatter them broadcast over the field at the rate of ten pounds to the square rod. Just before winter cover the beds with a mulch of hay, corn-stalk or straw; the last is the best, cleanest, and most free from weeds. If the mulching should happen to be omitted during the winter, put it in the rows between the plants early in the spring, just as the plants are blossoming. We have found the mulch to help forward the ripening very materially, and at the same time by supplying moisture it increases the size and color of the fruit.

Remove all dead leaves from the plants when they are to be planted out; and after every season of fruiting it is well to do the same thing. Many skillful growers cut all the leaves off, both living and dead after fruiting season, and permit new leaves to form. The plants often produce crops the next year far superior to the usual average. In planting use a small trowel or dibble, and give abundance of room to spread the roots

out. These simple directions will enable any amateur to grow strawberries to perfection and keep his bed in good order the year through.

Pears for the Garden.

A good list of pears for a dozen trees for the garden we would name as follows :

Dearborn Seedling—A good, sure, and abundant bearer ; fruit fair, sprightly, and of an excellent flavor.

The *Rosier*—hardy habit, with sweet and pleasant flavor.

The *Bartlett*—handsomest of all autumn varieties, and popular from its fine quality, free growth, and sure productiveness. These trees are good summer varieties ; the first ripens in July, the second August 1st, and the last August 14th to 15th.

Of *Autumn Pears* we would choose six. First, the *Belle Lucretia*, because of its most delicious honeyed flavor, and so well liked at the dessert.

Louise Bonne de Jersey (as a dwarf) for its sprightly, juicy fruit, and its productiveness.

Beurre d'Anjou, for its exquisite, aromatic, juicy taste and productiveness.

Duchesse d'Angouleme, for its magnificent size and reliability as a dwarf.

The *Seckel*, unapproachable in quality and long lived.

The *Howell*, bright yellow, a handsome tree, early bearer and excellent flavor.

For *Winter* we would plant the *Beurre Clairgeau*—fine size, early bearing, handsome color and good keeping qualities.

Lawrence—hardy, sure, excellent bearer, fine flavor and a fine keeper.

Vicar of Winkfield—the very best for preserves or cooking, extremely productive, and keeps until January or even March. When well ripened it is also a good eating variety.

The cottage gardener can plant from one to three trees of each variety upon his grounds, according to their extent, but he cannot go amiss in the selection of the whole list in some one or other proportion.

Soil for Rhubarb.

No garden vegetable requires a richer soil than Rhubarb. Sandy land is almost useless. We had the pleasure once of trying it as a market crop to the extent of an acre, but at last became convinced the amount of money absorbed in providing manure enough to raise a good crop, was larger than the crop itself after harvested. It is a bulky material to ship to market, and very often varies greatly in price. In family gardens, however, the gardener can well afford to devote a good border to it, and dress it annually from a bushel to a barrel of good manure. The more liberal the supply of nutriment, the larger the stalk and the better the quality. The soil should be dug deep, at least eighteen inches, and well mixed with surface manure.

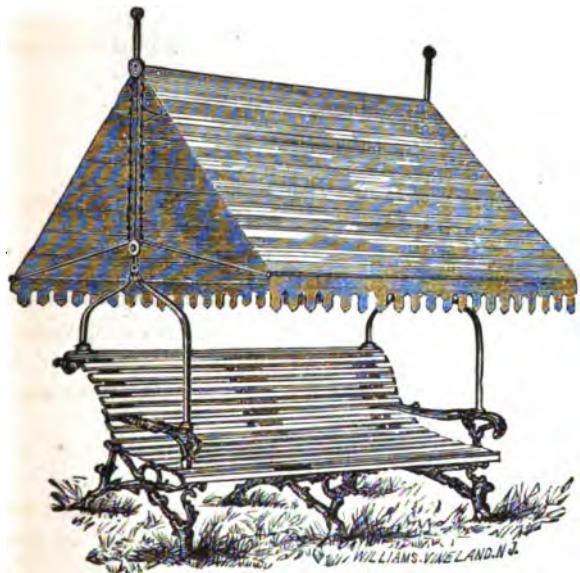
The best time for planting is in the fall, still it is successfully attempted in the spring. Plant the hills not less than four feet apart. Put the crowns fully three inches below the surface, and cover with mulch during the winter. Manure is best applied also in the fall, directly to the crowns, for the shoot starts early, and are up above the ground very early in the spring. After the roots have grown several years, examine them and see if there are any signs of decay in the centre of the plant. If so, take them up, divide them into three or four more pieces, and transplant them. Every piece will form a new crown and a luxuriant hill.

Be careful of whom you purchase rhubarb plants originally, for it is quite a common deception for tradesmen to take up their large crowns, and divide them into four or six

smaller plants, and then sell them to customers. It is better to go personally and examine the stock you wish to purchase, and stipulate specially for plants *undivided*, and not less than *two years' old*, otherwise a purchaser hardly knows what he will get.

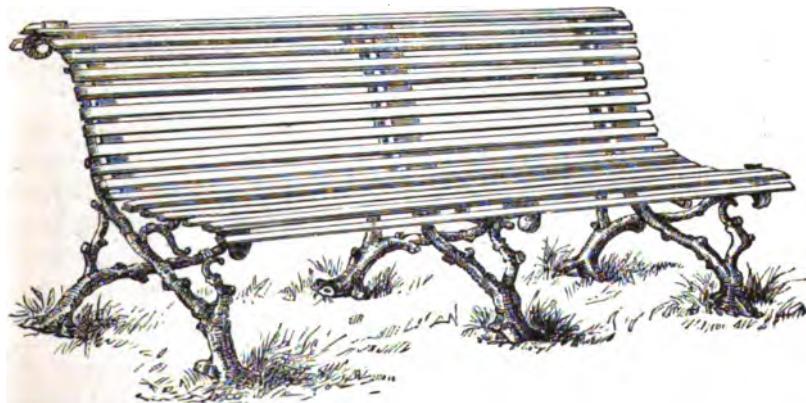
The *Linnæus* is still one of our most productive varieties, and also of best quality, although somewhat small. The *Victoria* is enormous in size, and also quite productive, being very profitable as a market crop. We have seen beds of the *Downing Colossal*, which seemed to meet our idea of a perfect amateur variety better than anything else yet brought to our notice.

Derby Garden Seat and Shade.



Rustic Seat with Canopy.

stration represents the seat uncovered; the other covered. Both are exceedingly pretty.



Rustic Seat without Canopy.

THIS is a new seat for Park or Lawn use now quite popular in England, and really quite pretty. The awning is supported by the iron frame work which is firmly fastened to the arms and back of the chair. A little pulley winds up or lets down the awning at convenience. The seat is best made of fine native wood, and neatly varnished. In this way the natural veins or markings of the timber are brought out. If made of iron, either paint, or grain it in imitation of timber, or use some light pleasant paint, but do not use green. There should be some color to contrast agreeably with the greenness of the surrounding grass and foliage. One illus-

Stevensdale Institute.

FOR the sake of illustrating what we have so often urged in behalf of rural embellishments and ornamental home architecture, we introduce, this month, three exquisite engravings of the Stevensdale Institute, South Amboy, N. J. The frontispiece repre-

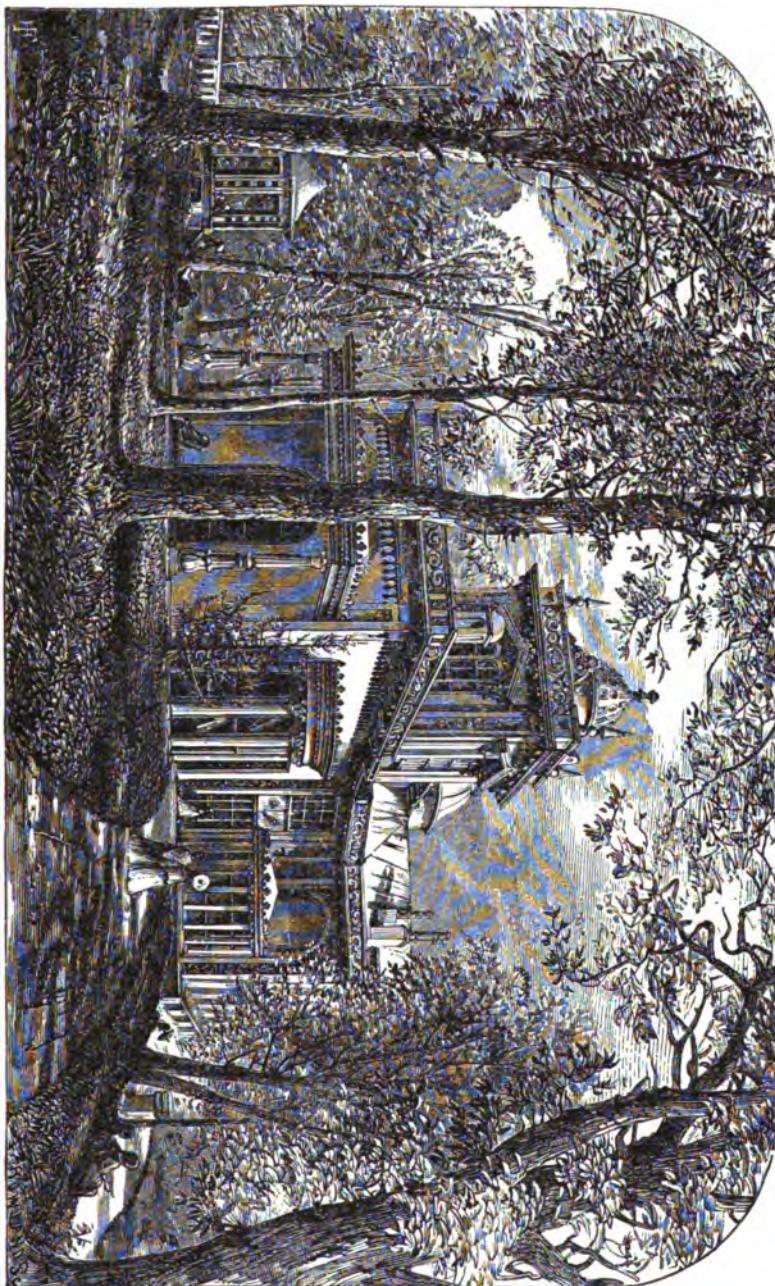


Rustic Bridge and Stream.



Lake and Observatory.

sents the view of the building as the observer approaches from the street. The view down the bank toward the streamlet, and the over-arching trees, with the rustic summer house in the back-ground, make a picture cozy-like and very tempting.



Ornamental Grounds at South Amboy, N. J.—Stevensdale Institute.

The Observatory and the Lake furnish still another rural scene of more than customary elegance, while the arched bridge and placid stream beneath, complete a sketch of one of the most inviting of all suburban retreats. The Institute is a seminary for the education of young ladies, and who that examines these artistic illustrations can fail to admit that scenes of such rare beauty must have their influence in the minds and hearts of the dwellers within their precincts.

We have often advocated the extensive adorning of the grounds of public institutions, and especially of those devoted to educational purposes. They invariably inspire taste, gentleness, care, and good deportment among scholars and students. And we doubt not more than one has found, in later years, his appreciation of the beautiful in Art and Nature dates back to the well remembered sights of ornamental shrubs, trees and flowers in the home grounds of the old college or academy. We have seen few engravings of rural ornament better worthy appreciation than the elegant little trio in this number.

Condition of Our Western Trees for Winter.

IN August I very much feared that our trees would make a late fall growth, as they did last year, and be in bad condition for winter; but although September was a very growing month, October was very favorable, cooling off gradual, and up to this time (2d of November) the frosts have been so light that the tenderest twigs have not been injured. The weather has been just cool enough to check the growth and ripen the wood.

The summer, up to the 7th of August, was so dry as to check the growth of most of the trees, when sufficient rain came to start the young cultivated trees into growth, but I could not see that the older fruit-bearing trees made any unusual growth. By cultivation, I mean those that were cultivated in the fore part of the season, but not after mid-summer.

The summer drouth had prevented the weeds from growing, and all the seeds of weeds lie dry in the ground, and when the rains came, all the weeds of the season came up and grew—yes, grew! for who would dare to go into the orchard or nursery and cultivate, or attempt to destroy the weeds after mid-summer!

We have so seldom had a year favorable for peaches, that we have but very few trees; those few bore a fine crop this year. The leaves have fallen from the peach, and the fruit buds are very numerous. I have not examined the apple and pear, to ascertain whether they promise a crop next year, and doubt whether I could determine whether the apple buds were for fruit or wood. The crop of fruit being very light this year, and the growth of the trees so checked by the drouth through mid-summer, that I should think it was very favorable for a crop of fruit next season.

SUEL FOSTER.

Notes from My Garden.

IN this region, the past season has been unusually favorable for horticultural experiments, as we have had abundance of rain and no lack of heat or sunshine.

I had this spring eight varieties of strawberries under cultivation in the same soil, and receiving nearly the same treatment, being mulched winter and summer, and kept scrupulously clean of weeds.

Hovey's Seedling and *Ladyfinger*, intermingled and grown in matted rows, yielded a fair crop of delicious berries, but as this was their fourth season, I observed a decline both in the size and quantity, and therefore turned them under.

Wilson's Albany Seedling, planted in the spring of 1867, gave a very handsome yield in 1868. The next year it grew spindling and bore only half a crop. Although treated with the greatest attention, its decadence was more marked this season, and I obliterated the bed. A neighbor makes a similar report, and we have agreed to discard this variety as a failure here.

The *Philadelphia*, in a matted bed and with less attention than the other varieties, grew lustily and yielded a plentiful crop of large and well-flavored berries. I have extended this bed and shall cultivate it in matted rows hereafter.

Jucunda, grown from Knox's potted plants, set out in the spring of 1869, has borne about two dozen berries, and at the end of this season the vines had nearly perished. I transferred the remains of the plants to another carefully prepared bed, to give it another chance, but I apprehend it will not grow here.

Kitley's Goliah and *Triomphe de Gand*, from the same source, and set out at the same time, have grown a little better, but have as yet done nothing to justify their reputation.

The *Agriculturist*, grown in hills, is beyond all comparison superior to any variety I have tried, for thrifty growth, productiveness, and the large size, firmness, and high flavor of its fruit. Our berry eaters are unanimous in giving it precedence over any strawberry we raise, especially for its superior flavor, and I have gathered gallons with none less than an inch in diameter.

My plantation has been extended each season, and this year the three-year old hills gave the heaviest fruitage, and those in their second year their largest berries.

After the regular crop in June, this bed slept through July and commenced blooming and fruiting again about the first of August, and has continued to blossom and mature small quantities of fruit up to this date, November 8th. From this record, I think it will be conceded that most disputes about the merits of different varieties of strawberries are questions referable to soil and climate, and that I, at least, have the right strawberry in the right place. I am the more impressed with this belief from the fact, that when I planted my *Agriculturists*, four years ago, a very skillful amateur, living not fifty miles off, told me I was wasting my time and labor, as he had persisted in trying to grow them for several years, putting both zeal and experience into the effort, and had utterly failed.

From my strawberry experiences I have concluded that an amateur should, with due regard to flavor and productiveness, cultivate only the largest sized berries, and always in hills or rows. Especially, if he undertakes to do the picking himself, will the wisdom of these conclusions be manifest.

Raspberries.

I have seven varieties of raspberries, which shall be named in the order of their ripening.

The *Kirtland* showed its first ripe berries on the 13th of June, and yielded good picking every day or two for a month. The berry is small, very sweet, and hangs on the bush until it dries. Its hardihood, good quality, productiveness, and long season here, make it a valuable family berry. About the 20th of August the new canes began blooming, and I have continued to bloom and ripen fruit up to this date.

The *Improved Black Cap* ripened eight days later than the *Kirtland*, and ceased bearing a week earlier.

Brinkle's Orange was nearly burnt out last year, and, notwithstanding winter protection, summer mulching and a very favorable season, has grown very feebly. Some of the stocks, however, have shown fruit delicious in flavor and fair to look upon.

The *Mammoth Cluster* plants, obtained from Knox's nurseries in 1869, fruited fairly this season. They are almost identical with my other Black Caps in size and habit—fruiting two weeks later, and the berry neither so clean-looking nor so well flavored. I presume the only merit of this variety will be to prolong the season of Black Caps in localities where better raspberries cannot be grown.

The *Woodley*, an old red raspberry, hard and poorly flavored, was dug up and cast out.

The *Monthly Raspberry* commenced fruiting in June, and continued in bearing until a severe frost nipped its clusters of bloom, immature and ripe fruit. This variety is very prolific, and, although of inferior quality, its constancy should induce every amateur to plant at least a dozen or twenty stocks.

The *Red Antwerp*, with protection and mulching, has grown lustily and fruited continuously during the month of July. The produce was not quite satisfactory in quantity, but in quality surpassed anything of its kind that I have ever tasted. My desideratum now is to find a raspberry equal in quality to this, but more hardy and productive. Can you name one?

Blackberries.

Of blackberries, we have the *Lawton*, *Wilson* and *Kittatinny*, besides some fancy varieties.

My *Wilson's* showed wreaths of blossoms an inch and a-half in diameter, and so doubled that they resembled white roses. The fruit was nothing extra. The *Kittatinny* ripened earliest, and bore clusters of fruit, handsome as the pictures in the Illustrated Catalogues; yet, as our mountain thickets and fence corners so superfluously abound in wild blackberries, quite as large and of better flavor, we will scarcely trouble ourselves to extend their cultivation.

Currants.

We have the white and cherry currants, grown tree-fashion, which produce very large and beautiful fruit for the table, but for the substantial stock of jelly and wine, the good wife prefers the Old Red Dutch, grown on the old-fashioned thicket bushes, which yield enormously every season for us.

Grapes.

I have filled my assortment of grapes with Rebecas, Maxatawnneys, Delawares, and Catawbas, none of which are in bearing yet. Meanwhile, the eighteen vines of Concords have yielded about ten bushels of fruit, showing the heaviest clusters and largest berries of this variety that I have seen outside of the picture-books.



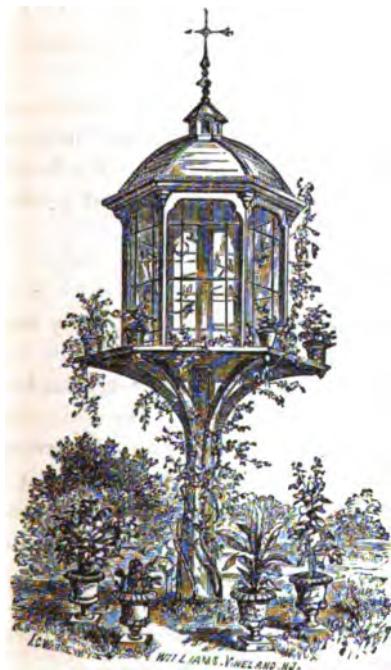
Porte Crayon's Troublesome "Vermin."

For the last two seasons my small fruits—especially those near the ground—have been disturbed by certain animalculæ, not mentioned either by Darlington or Darwin. As they seem to be increasing and becoming more destructive, I send a drawing in the hope that some of your horticultural philosophers may suggest a remedy.

DAVID H. STROTHER.

Berkley Springs, Morgan Co., West Va.

Design for a Bird House.



OUR artist is a great lover of birds as well as of flowers, and has happily combined the two ideas, the one surrounding the other. Here is a Bird Cage, neat, simple, full of the beautiful warblers within. Upon the outer edges of the stand are little flower pots full of choice plants, and here and there some pretty climber attempts to work its way toward the top. On the ground underneath is collected a few more flower pots of larger size, {with plants of ornamental foliage, and in the distance, just on the outer edge of the grassy lawn, are the forms of the evergreens and shrubs which bring out the whole picture into still more charming relief.

Gladiolus for Small Gardens.

THE *Canada Farmer* names the following six varieties as a good choice for a small selection, viz :

Shakspeare, which is a beautiful white flower of

fine form with large rose spots, possessing a good constitution and forming a "model of a spike."

Adolphe Brougniart, which is not known to us.

Meyerbeer, with a spike not easily excelled, very showy, brilliant vermillion, orange flamed scarlet, and spotted with amaranth.

Thomas Methven, which we have not seen.

Ulysse, fine rose color, unsurpassed in form.

Madame Furtado, a rosy white, flamed with deep carmine rose, a large flower.

Popular Pears—The Lawrence.

A NOTHER noble fruit of American origin, too, worthy of special note. The Lawrence is a native of Flushing, Long Island, but we have no statistics or facts to guide us, when, where, or by whom. It is a variety as yet not generally planted by the mass of cultivators, but highly appreciated by all who have become aware of its special excellencies. The tree itself is but a very moderate grower while in the nursery, but once established in the orchard it grows freely, and comes into bearing at an age of from six to ten years. The tree itself is handsome, symmetrical, branches spreading, admirably adapted for pyramidal culture, and entirely *exempt from the blight*. We have yet to hear of a single instance where it has been seriously attacked by this insidious disease. It possesses also another excellent qualification, viz., *holding its leaves the entire summer*, often in seasons of extreme heat or severe drought its foliage remain untouched and never withers. This adapts it extremely well to cultivation in our Southern States, where but very few sorts are able to withstand this most rigorous test. The tree is hardy, able to stand severe cold, is long lived, and when once in bearing seldom fails, and grows more productive year after year. Still another qualification must be noticed, better than all the rest. It is a splendid winter variety and an excellent keeper. It ripens usually from November 1st to December 1st, and keeps well until February and March. It possesses the valuable property of keeping without shrivelling, and ripens off gradually, with ordinary care, as well as any good winter apple.

A good idea of the manner of growth of the tree is gained from the accompanying illustration. Its habit is vigorous, upright, regular branches, with slender, annual shoots, and small, thick, oblong leaves, of a dark, glossy green. It succeeds upon either the pear or quince root, but as a standard is by far the most valuable. We have seen trees six years of age which would bear fully twice as much fruit as the Bartlett or Beurre d'Anjou, and from the fact that it ripens at a time when nearly all other pears are gone, or few are left, it proves to be fully twice as profitable. The *flavor* is rich, juicy, sugary, aromatic; *flesh*, yellowish white; *color*, lemon yellow, marbled with dull green, with traces of russet, or sometimes covered thickly with minute brown dots, with often a tinge of red on the side exposed to the sun.

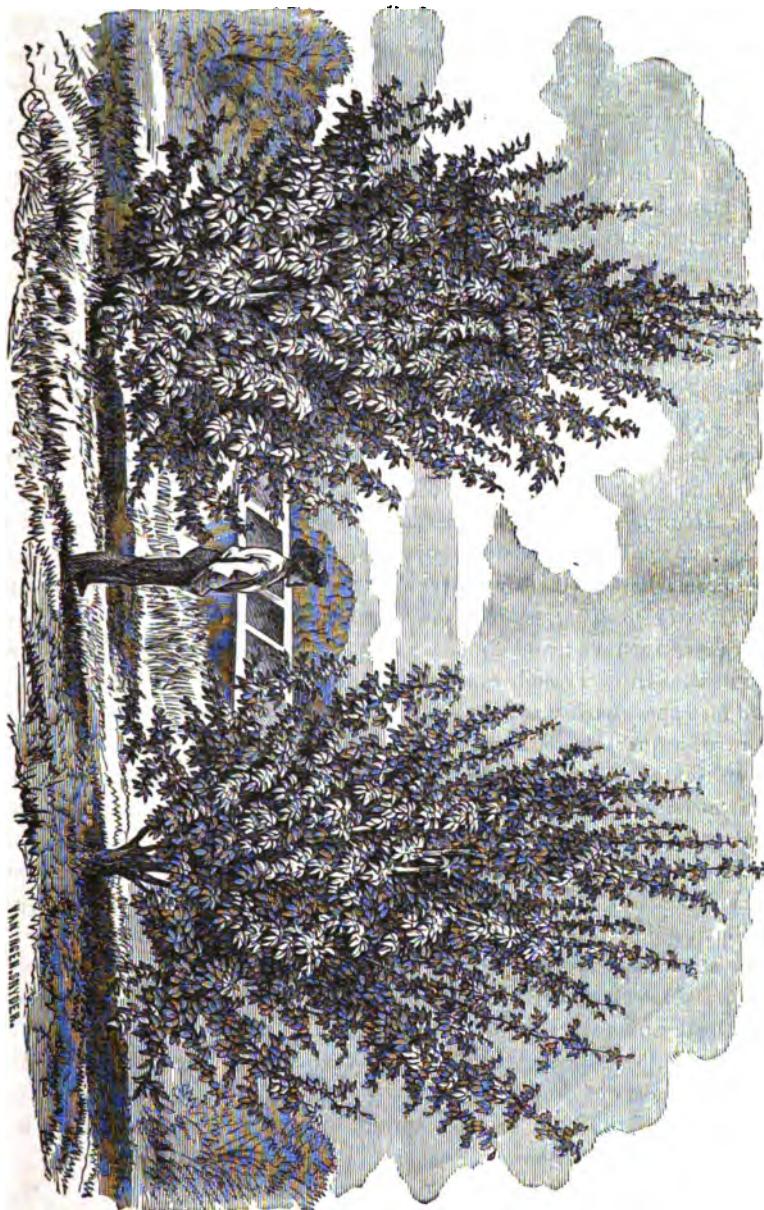
Its size is only medium, but the fruit is often found in clusters of two or more together, and what is lost in size is made up in productiveness. As an orchard sort it is unsurpassed among all winter varieties, and we esteem it now the very best and most profitable late variety that any cultivator can select as a standard. It seems to be without a fault, save that it requires considerable age to reach its full productiveness.



Good Strawberries.

THE past season, with us, was one of the best for this excellent small fruit, and I propose here to give the result of my experience with the following named varieties:

Green Prolific.—All large—medium in time of fruiting—excellent. Enormous bearer; pale red. Foliage large, rank, and foot-stalks hold the fruit up firmly from the ground. With me, all that any one could desire for a home fruit; but for transportation it is too soft. I prefer it to any other that I have ever tried thoroughly.



Lawrence Pear Trees.

Charles Downing.—These also are all very large, beautiful red, of a dark, fiery, crimson color; fine bearer; firm enough for distant market; flavor very excellent. Every garden should have it. It is a native of Kentucky, having been propagated by that prince of strawberry propagators, Mr. J. S. Downer, of Fairview, Todd county, Kentucky.

Kentucky.—This is a new seedling, also from Mr. Downer. It has not yet been much disseminated, having been sent out only this season; but its great merits, chief among which is its being *very late*, yielding the bulk of its crop when all others are gone, will soon spread it far and near. On twenty-five spring set plants, which I received direct from Mr. Downer, I gathered several pints of very superior fruit, and from them I potted over 500 in two inch pots, and have from the original twenty-five, a matted plat, containing many hundreds. In color, shape, and habit of growth, it much resembles the Charles Downing; but is a better berry, and more desirable, which is saying a "great deal."

French.—Early, medium size, excellent. "Mrs. Woodman" would eat no other as long as it lasted. Resembles the Green Prolific in color; but its tendency to produce so many runners renders it troublesome to one who cultivates strawberries as I do—only in stools and matted rows.

Downer.—Another seedling by the gentleman for whom it is named—early, very productive, and good quality. It gave us our first mess of berries, making the stools red all over with large, fine fruit, May 18th.

Wilson's Albany.—Any article written on strawberries, which did not say a good word for this variety, would exhibit either a lack of good taste, or betray a woeful ignorance of the most remarkable strawberry ever propagated in this or any other country. Very large; *enormously prolific*; medium and early, both; firmer than any known variety, except, perhaps, Jucunda; and equally as firm as that variety. Wherever anything else will—so will it. In every soil, every climate, it astonishes all who see it. Grown in stools, two feet apart each way; on my grounds this spring, a plat of 640 stools yielded, on an average, a quart to the stool—in all, 160 gallons. I never saw a plat, however, so finely cultivated. Not a single runner or weed was ever permitted to grow; the ground was constantly kept loose the season of planting, and mulched all over in winter with wheat straw two inches deep, which was removed from the crowns only early in spring. Not a particle of manure was added. Other varieties, similarly treated, did not bear half such a crop. Many persons condemn this kind because it is, as they say, too acid; but I think it an excellent berry, and its other good qualities place it the king of the strawberry kingdom.

Other Varieties.—Space will not allow me to say much in detail of many other excellent kinds worthy of all praise—such as "Hooker," "Peak's Emperor," "Triomphe de Gand," "Russell," "Fillmore," "Lennig's White," etc. Nor, indeed, is it necessary to dwell upon the merits of fruit so well and so favorably tested as these. By all means, if you have none planted, do so next spring, selecting a few of the above named kinds, and with a little labor your reward is sure and valuable.

Stanford, Ky.

WOODMAN.

Floral Vases.

THE illustrations of Floral Vases and Stands, which we here introduce, are intended to show what may be accomplished with taste and a very little expenditure of money. They are made of silicious stone, found in the vicinity of Ipswich, England, and molded into all manner of forms for architectural and garden decoration. These vases are for either out-door or window use, and are suitable for the growth of almost any flower or ornamental plant. Tulips, Crocuses, Fuchsias and Lilies grow up in profusion, and are surrounded with dozens of other delicate yet beautiful annual flowers, while the ornamental Dracæna, Maranta or Begonia, with brilliant foliage, overshadow all with their crimson glory. Nothing can be more charming for window culture than a *coterie* of such lovely gems of winter gardening.



Among the Flowers, or Gardening for Ladies.

BY ANNIE G. HALE.

IV.

Favorite Window Plants.

IN the paper entitled *Hanging Baskets and their Plants*, which appeared in the HOR-TICULTURIST for Feb., 1870, mention was made of several species of herbaceous plants that are generally included among those of standard growth; and the best method for their management was stated. But, if those plants be reared in standing pots, and individually, they will need no different treatment from that which they should receive in a basket group; except that some slight support must be furnished them during their first few months, and frequent and close pruning given.

Among the many other soft-wooded plants that are considered suitable for house-culture, not more than a dozen can really be called desirable, after we have selected as our first choice geraniums, heliotropes, stevias and eupatoriums;—and those are the following:

The Calceolaria,—its name comes from the Latin for shoe—the blossom resembles an ancient Roman slipper,—singularly beautiful with its heavy clusters of golden, crimson, maroon, or rose-colored flowers—sometimes plainly tinted, at others curiously mottled and flecked. It needs a sandy soil—garden earth and common sand in equal proportions; should be kept rather warm, in an atmosphere of 60° to 65° by day, and 50° at night; and be sparingly watered. Give liquid manure once a week after the flower-buds start. Pot old plants in May, in the same manner as eupatoriums (see April No.), and keep them in a warm but shady place, out of doors, till September, with only water enough to prevent them from drooping. Before potting cut them in closely; and make new plants of those cuttings by rooting them in moist sand under a glass, in the sunshine; or plant the seed in a sunny and sheltered spot. In August pot them and tie carefully to a light trellis till they are two feet high, then trim off the most slender branches—in fact cut them in pretty close and let them stand alone. This is a delicate plant, but may be strengthened and hardened by this close trimming and a careful management of its supplies of heat and moisture. It needs a good deal of air—does best when wide breathing space is allowed.

The Lantana requires similar soil and treatment to the Calceolaria—except that it is of a stouter, a more woody nature, and needs no support. Its compact head of flowers of different and changing hues—white, crimson, scarlet, orange, and yellow, sometimes all in the same spike, is always an object of great interest, though its peculiar perfume is not universally agreeable.

A very desirable window plant is the Pyrethrum, sometimes called Mountain Daisy; it is found in great profusion in the mountainous regions of Asia. This will grow in ordinary soil with very little care, and its delicate light green foliage, crowned with dense clusters of snow-white blossoms, contrasts finely with the deeper colorings of Calceolarias and Lantanias. Old plants should be cut to their roots, and both roots and cuttings be set in a garden-bed in May or June, and treated as common out-of-door plants. Pinch out all flower-buds till they are taken to the house. In September pot them with the same soil in which they have been growing. Keep them in the shade, with occasional watering, for a fortnight; then bring them within doors. The Pyrethrum does best in a moderate temperature with scanty watering.

The Chrysanthemum (it gets its name from the Greek words for gold and flower—many species bear yellow flowers), though commonly classed with out-of-door plants, should be made to lend its beauty to every parlor through the months of October, November and December. After flowering, Chrysanthemums must be set in a dark, cool place—a cellar, or any damp, dark place where they will not freeze—till May. Then give them the same treatment as Pyrethrums, with which they are often classed; but they require free watering. Soap-suds will make them grow stout and strong through the summer. After they are potted give liquid manure twice a week till the buds begin to unfold, then withhold it entirely.

Another splendid flowering plant, which has been supposed, until recently, to expend all its energies during the autumnal months, and to require the open air for the perfection of its beauty, is the Salvia. *Salvia angustifolia*, with its elegant foliage and long spikes of clear blue flowers, is particularly fine; so is *S. patens*, bearing blossoms of a still more "heavenly hue;" yet none are so attractive, nor so hardy, as *S. splendens*, with its plumes of dazzling scarlet. Any of the Salvias are easily raised from cuttings; trim all the foliage from these slips and set them in damp sand to root. Start them in May. When rooted set them in the garden, but keep them shaded from the sun with a paper screen till the new leaves are well developed. Water freely. In September pot those you wish for the house, and pinch out the buds. If then left to themselves they will store up strength for the winter. But before the frosts come, be sure to take them within doors, and give the fertilizer once a week till in bloom. Cut them to the root in May, and set the root in the garden. It is best to start new plants every year for the house. Salvias need a light loamy soil, and a temperature of 60° by day, and 45° by night.

The Mimulus—its seeds resemble the face of a monkey, and hence its name, which comes from the Latin—is a very thirsty plant, does best in a mixture of leaf-mould and garden earth, with just enough sand to keep the soil from being heavy, and frequently needs watering twice a day; but it thrives in the atmosphere of any family room, and with its gorgeous blossoms of gold spotted with maroon and crimson, is a great addition to any collection. Propagate it from cuttings rooted in water. The young plants should be kept in the shade all summer out of doors.

Aloysia citriodora—called by some Lippia, in memory of a French botanist—ought to have had mention among arborescent plants. This is the lemon-scented or sweet verbena. The flowers are of small account, but its elegant fragrant foliage and generally neat appearance gain much admiration. Trim old plants and re-pot them in the spring. Root the trimmings in wet sand, under a glass; then give those young plants a soil of garden earth, vegetable mould and gravel in equal proportions. Set the pots in a garden-bed, plunged to their rims, till September; then stir the soil often with an old table-fork, water sparingly, giving liquid manure once a week; take them to the parlor in October, let them have the sun six hours every day, keep the atmosphere moist, and not above 65° by day or 45° by night, and they will flourish wonderfully.

Mattholas, stock gilliflowers, or the old-fashioned wall-flowers, are fine winter-flowering plants for the parlor windows. Their heavily-clustered spikes of purest white, yellow, crimson, purple, or rose-colored double blossoms, make a grand display. Sow the seed in a sunny garden-bed in May, and in August pot the plants in good soil and keep in the shade a fortnight. At the end of that time give more sun, water freely, and allow liquid manure twice a week for two months, then once a week through the winter. Cut

old stocks to the roots in May—sometimes good plants may be obtained of those cuttings rooted in moist sand, but it is surer to depend entirely on seed for new plants.

Pinks—*Dianthus Chinensis*, the China Pink, and *Dianthus caryophyllus*, the Carnation—are well known parlor plants. The China Pink, though not fragrant, is so beautiful and so easy to manage, no collection should be considered complete without it. Plant seed in June in good garden soil; pinch out all flower-buds till September; then take them, with a ball of earth about their roots, to pots of the same soil. Keep them in the shade a fortnight. Water sparingly till more flower-buds appear, then give moisture generously—weak liquid manure twice a week, also. It will bear great heat, 65° to 70°; but 60° suits it best. In that temperature in an open, airy situation, it will put forth its deep crimson, velvet, very double, flowers in great profusion all winter.

D. caryophyllus—the Carnation—with its enormous blossoms of rose-color, scarlet, yellow, white, either in plain colors, flecked, blotched, or banded, makes always a fine appearance, while its exquisite perfume never wants admirers. This should be raised from cuttings rooted in sandy soil under glass, or by layers—the layers are the more sure. For these select stout branches on a well-matured plant. Omit watering the plant for a day, or until the selected branches have wilted a little—they will be less liable to break during the process of layering. Dig and stir the soil in the pot pretty thoroughly with an old fork. Then trim off all the leaves from the shoot or branch to be layered, except those at the tip. Cut half through the joint to be rooted, in a slanting upward direction, with a sharp penknife, and bend the branch, taking care that it does not break at the incision, till the joint lies more than an inch beneath the soil, and confine it there with a hairpin. Then cover with the loosened soil all but the last inch of the stalk, pressing the earth carefully and securely over all. Water the soil sparingly—there is always danger to carnations from over-watering—and in five or six weeks you may remove the young plants thus formed to separate pots. Sand, garden soil and stable refuse, in equal proportions, is the best ground for carnations. Some cultivators mix a little salt, and others soot, or charcoal, with this compost. When the flowers are partly opened it is well to strengthen their calyxes (which are liable to burst) with a slender rubber ring.

A few words now in relation to the insects that annoy the flower-fancier and often prove so destructive to parlor plants. Of these, the most to be dreaded is the red spider, a creature so minute as to appear like the merest brown speck to the naked eye, but when crushed shows its guilty color. When the foliage or young shoots look yellow and begin to curl, you may be sure this pest is eating the under coat of the leaves, and hiding in every crevice. Unless prompt measures are taken to “oust” him, every one of your plants is doomed. Some persons find syringing with carbolic soap-suds a sure death to this insect. Others recommend the same use of sulphur-water. But the old way of fumigation, by placing the plants under a barrel, together with a dish of burning tobacco stems and leaves, is always effectual. This also closes the career of the aphis, or green fly, the mealy bug, and the brown scale. But the smoke must be nearly strong enough to suffocate human beings, and the plants, after being confined in it an hour, look pitiful enough. It is better to try drowning first; and so having prepared a quantity of warm suds in a large deep vessel—a bathing tub or something similar—cover the surface of the soil with a circular piece of pasteboard fastened on with a stout cloth bandage, to prevent dislodgment of the soil by the water, and lay the pot lengthwise therein. Every part of the plant must be completely submerged, and remain thus half an hour. Except in the

worst cases, this effects a cure. Yet, after all, the old adage, "An ounce of prevention is worth a pound of cure," is amply proved in the case of plants. A careful washing of them once a week with a bit of sponge or a soft tooth brush, particularly the under surface of the leaves, and every axil which syringing may not reach, if your room be well ventilated—its atmosphere moist and temperate—will insure freedom from their depredations. The ground aphis sometimes preys upon the roots of verbenas, causing the plant to appear as if mildewed. Those insects are destroyed by washing the soil with a tepid decoction of tobacco, about the color of strong green tea, every day for a week or ten days.

The importance of guarding plants against the extremes of heat and cold has been stated; but if, by any accident, they become frost-bitten, they may be restored by immersing them immediately, while they are stiff, in cold water, and keeping them thus in a darkened room for an hour or two.

Who Buys all the Grapes.

I HAVE frequently been asked the question—"Who buys all the grapes that come to the New York market?" and I am induced to give your readers some information on this point, in order to explain many of the differences in sales as reported by the various commission merchants.

Some growers think that because a dealer can get one price for one mark of fruit, he ought to get the same price for all, particularly when the quantity closely resembles each other. They appear to forget that the purchaser has any voice in the matter at all, when in fact, as a general thing, they are masters of the situation.

In the first place, the parties who receive the fruit are known as commission merchants, whose business it is to receive all that comes, be it much or little, and then are expected to know the value of everything when it arrives. When fruit is scarce the dealers command the position, but in years of plenty he can only use discretion in disposing of the stock sent him, and in order to dispose of all that he receives, he must have a variety of customers, who demand various grades, varieties and qualities for their customers, and it is this class that I propose touching upon.

The first in order, in regard to the quantity and quality they purchase, are those known as "jobbers," that is, they buy in large quantities to sell again. In many cases these men secure a large trade from persons living in the outside cities and country towns where the grapes are not grown, or, if at all, to a very limited extent. These retailers send their orders to these jobbers for such fruit as they may want, and in this way the fruit is scattered all over the country. The jobbers also supply the other classes known as retailers. There are jobbers in distant cities that procure their supply direct from the commission merchants.

The retail trade is divided in about the following order for fruit and character. The first in order are those grocers and fruit dealers who transact their business in all the most prominent and wealthy parts of the city, and deal exclusively with the wealthy. These are known as our "first class" customers, and those unacquainted with the trade would reasonably suppose that they were a very desirable class of customers, but that is

an error, for they buy in small quantities, are very particular as to the quality, and will not pay any more for it than some of the lower class of dealers. In plain words, it amounts to this, what they will buy any one will, and pay as much for it; these persons prefer to purchase the three and four pound boxes.

The great mass of good sound fruit is sold to the grocers and those persons doing business in the various markets, public and private, throughout the city. The grocers are mostly Germans and Americans, and prefer purchasing their fruit in bulk, without the loss arising from the weight of the small boxes. The river box, containing from twenty to forty pounds, are their favorites, as they weigh all their grapes to their customers. The Germans, in particular, are prejudiced against the small boxes; they are not particular about the name or color of the fruit if it is cheap, but would prefer having them black, as then they think they are ripe. The marketmen generally prefer the small boxes, as they do not weigh out their fruit.

The next in order is the female street venders. To strangers they present a novel appearance, who frequently pausing to gaze, are induced to purchase. In order to commence business they purchase a large oval basket with flaring sides, closely resembling a clothes basket, which will contain a hundred pounds or more; then they make a board platform to fit down in the basket from six to eight inches, and on this false bottom they place the fruit, piled up so as to give it the appearance of being a large bulk. They select the most public thoroughfares, where they will place their baskets, and then begin their cry, "Yer's your nice fine grapes, only ten cents a pound." In some of the most public places around Washington market, quite a number can be seen in a group, and in some instances they will extend their baskets half way across the street, and their united voices, in soliciting your patronage, is really annoying. Most of these women are of Irish birth, and possess remarkably well developed muscular bodies, and it is an easy task for many of them to carry off on their heads one of the 100 lb. cases of grapes; and I have known some of them to march off with two 60 lb. cases at once. This class is very valuable to the commission dealer, for they buy the inferior grades of fruit, and when damaged but slightly they will pay more for it than the lower grades of wagon peddlers, which come next in order among the dealers. There are also grades among this class of persons; the better class are generally respectable men, and drive good establishments, their wagons being always neatly and sometimes very tastefully ornamented. The horses are in good condition, and many of them of the fancy order.

The lower class in this line of business are mostly young men and boys of doubtful reputation and small means. Their establishments correspond with their finances, and are a sight to behold. Many of their horses are of the order known as "Herrings," and although they possess the usual number of bones belonging to a horse, you often find them without the use of one, if not two legs, and it must be a fortunate creature if it possesses both eyes. In regard to the flesh of the animals we will say nothing, as it is seldom they possess any.

The wagons and harness never disgrace the animals, and should the entire concern be set up at auction, it would be sorry fun for a man to bid \$10 on it, if he did not want it. They will buy anything you have to sell, their principal object seems to be to get the largest quantity for the least money, and the dealer must be careful to get his pay before loading, for if he does not, the chances are that they will cheat him in some way or another.

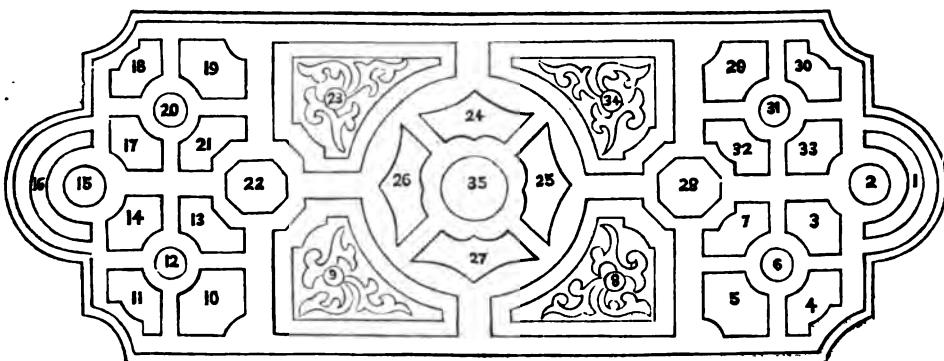
We have another class of buyers of grapes, known as wine men, who, for prices, compare with the lower grades of wagoners. Thus, by and with the aid of these parties, they are enabled to dispose of the large quantities of grapes sent to market.

New York.

C. W. IDELL.

Plan for a Flower Garden.

ENGLAND possesses many flower gardens of extensive and elaborate designs, on the grounds of her lords and royalty, and some of them evince artistic skill and superior arrangement. The accompanying plan is taken from an English design, by Messrs. Hovey & Co., of Boston. It represents a garden 162 feet in length, and 72 feet in width. The walks are of gravel, and the beds are all edged with box. Bedding plants or annuals may be used in planting; or, if the amateur desires a mixture of the two, the following will be an appropriate list; the best bedding plants being Scarlet Geraniums and Verbenas:



Plan for Flower Garden.

- | | |
|---|--|
| 1. Verbena (blue). | 20. Verbena, Sunset (rose). |
| 2. Verbena (white). | 21. Portulaca (golden). |
| 3. Pansies, of the fine showy sorts. | 22. Portulaca (scarlet). |
| 4. Portulaca (white). | 23. Same as No. 8. |
| 5. Tom Thumb Geranium. | 24. Geranium, Lucia Rosea (pink). |
| 6. Verbena (striped). | 25. Tom Thumb Geranium. |
| 7. Portulaca (golden). | 26. Tom Thumb Geranium. |
| 8. Campanula Capartica, with Tree Rose in the centre. | 27. Geranium, Lucia Rosea (pink). |
| 9. The same. | 28. Portulaca (scarlet). |
| 10. Tom Thumb Geranium. | 29. Tom Thumb Geranium. |
| 11. Portulaca (white). | 30. Heliotrope. |
| 12. Verbena (striped). | 31. Verbena, Sunset. |
| 13. Portulaca (golden). | 32. Portulaca (golden). |
| 14. Pansies, of the fine showy sorts. | 33. Ageratum. |
| 15. Verbena (white). | 34. Same as No. 8. |
| 16. Verbena (blue). | 35. Vase, or Statue. If a vase, to be filled with Verbenas, Petunias, etc. If a statue, to be surrounded with a circle of Oxalis Floribunda. |
| 17. Ageratum. | |
| 18. Heliotrope. | |
| 19. Tom Thumb Geranium. | |

But, when it is intended to be filled with annuals, this may easily be done by substituting Candytuft, Alyssum, Eschscholtzia, Lobelia, Agrostemma, Petunias, Dwarf Convolvulus, Clarkias, etc.

Grape Notes from the Parsonage.

THE past season has been peculiarly favorable for the grape crop in New England. Our remarkably warm and dry summer and autumn, though in some instances rather trying to the vines, have yet, on the whole, ripened up the fruit considerably earlier than is usual, and brought nearly all kinds to an unusual perfection. A few notes in regard to some of the newer varieties may be of interest to the readers of THE HORTICULTURIST, and possibly of some benefit to those who contemplate purchasing.

1. *Brant* (Arnold's Hybrid No. 8).—This variety fruited with me for the first time this season. It is a strong, healthy grower, but did not this year give any such evidence of productiveness as I should have been glad to see. The clusters and berries both remind one of the Clinton, though the fruit is superior to that variety both in quality and earliness. It was one of the first in the garden to color, but the birds did not allow me to discover its time of ripening. Every berry was taken before one of them was fully mature. Next season I hope it will bear enough for the robins to allow me to get a taste.

2. *Cornucopia* (Arnold's No. 2).—My vine of this variety gave me several fine clusters. Both bunch and berry are larger than I supposed, several of the former being six inches long. It is also a much better grape than I had thought. When fully ripe it is very delicate in flesh and very spirited in flavor, making one of the best varieties in my grounds. I should think it would prove a very valuable grape for wine. I look forward to a farther acquaintance with it, with a great deal of hope. If it continues to improve with the age of the vine, it will make a grape to which, thus far, few superiors have appeared. Vine strong and healthy.

3. *Cottage*.—This is a seedling of the Concord, introduced two years since by the originator of that. It was announced as much superior to its parent, and in various respects a most desirable grape. I have eaten it for the first time this season, and in all candor must say that it is by no means equal to the Concord. It has a hard, tough pulp, is decidedly foxy, and in my judgment not worth growing. The vine is a good but not particularly strong grower, and has proved, with me, entirely free from disease.

4. *Croton*.—It takes a long leap to carry us from the last to this. For the Croton is one of the most *superb* grapes that has yet been grown in the open air. It is a white variety (a hybrid between Delaware and Chasselas de Fontainbleau), the berries of medium size, but the clusters *very* large. In texture it is as delicate as any foreign grape, while in flavor it is as pure and refined as the most fastidious taste could demand. It lacks somewhat that *positiveness of character* which is such a peculiar excellence in the best foreign varieties. I do not consider it quite equal to a well-ripened Iona. But this is a point on which tastes will differ. In a recent letter from Mr. J. B. Garber, of Penn., he says: "I have grown and tested over three hundred varieties of grapes during the last twenty years, and I unhesitatingly say that the Croton is *the best* out-door table grape that has yet been grown or tested by me, and a dozen of my horticultural friends who tasted them with me fully agreed with me in this opinion." And Mr. G. W. Campbell, of Ohio, says: "I regard the Croton, all things considered, the most promising new grape that has yet been introduced." There is no question that it is a splendid fruit. My vines for two years have been entirely healthy, and have grown (with one exception, the first year) as vigorously as could be desired. The fruit ripens *early*, about with the Delaware. If any one wants a *magnificent* grape, that is a feast both to the eye and the palate, I advise him to send at once for a Croton.

5. *Eumelan*.—Another year's experience with this has increased my admiration of it. I have quite a number of vines planted, and every one of them has been as healthy as could be desired. It is a vigorous grower and a *very* prolific bearer. The clusters are quite large enough, and very handsome in form. The fruit is about the size of the Iona, and is in quality superior to any black grape I know, except Senasqua. It ripens, too, *as early as anything*. Miles *colors* before Eumelan, but the latter ripens first. This for a black, Delaware for red, and Croton for white, gives us almost all that can be desired.

6. *Lorain*.—This is another white variety that has attracted considerable attention in Ohio, having taken one or two first premiums for quality. My vine was set last spring. It grew well, showed a good healthy leaf, very short jointed wood, and appeared in all respects quite promising. Of course, no fruit.

7. *Senasqua*.—This is a black grape (a hybrid between Concord and Black Prince), originated by Mr. Underhill, who also gave us the Croton. In my judgment it stands *at the head* of all out-door grapes I have ever eaten. It is not *puddy*, like most of our native varieties, but *meaty*, plum-like in flesh, like the Black Hamburg. In delicacy and character it is more like the foreign grape than any other hardy variety that I know. It ripens, I am sorry to say, rather late; too late, I fear, for our latitude. Mine was one of the last in the garden to mature this year. But this was its first crop, and as the vine acquires age we may reasonably hope that the fruit will acquire earliness. The vine is a very strong grower, with a thick, tough leaf that promises to withstand mildew as successfully as any native.

8. *Queen of Sheba*.—This was sent me a few years' since by a friend in Connecticut, as a new and very promising variety, and on the basis of his strong commendation I have sent cuttings to various horticultural friends. But this year it fruited and proved to be nothing more nor less than *Diana*.

W. H. W.

Reading, Mass.

Practical Hints to Fruit Growers.

Lime for Orchards.

THE most successful apple orchard in the Eastern States owes its success entirely to the application, yearly, of liberal quantities of lime broadcast over the land. Very few farmers seem to realize the benefit of such a course, yet here are results not to be overlooked. The trees are large, handsome, thrifty, free from disease, productive, yielding crops every year. The fruit is of large size and handsome in appearance, and sells at remarkably good prices, being in great demand for shipping to England. The sales are uniformly made at rates of \$6 per barrel, while common fruit rarely ever reaches above \$3. An intelligent writer in the *Western Rural* remarks that the trees require lime as a necessity for building up their trunks and branches, and in the formation of their foliage and fruit. It may be applied at any time, but late in the fall or early in the spring, is the most suitable period. It should be put on in the shape of dry dust, and be spread evenly over the surface, and harrowed in. You may give a good dressing; there is no fear that you will apply a large quantity. A bushel to the square rod may be safely applied, but a peck or even a quart will be better than none at all. Wood or

peat ashes are excellent manure; they should be spread evenly over the surface, and should not come in contact with the trunks of the trees for fear of damaging the bark. Lime from well-burned limestone is the best for your purpose. It should be slackened by pouring water upon it, and when it has crumbled into dust, it should be applied before it becomes heavy and damp by extracting moisture from the atmosphere. If a comparatively small quantity of lime is mixed with muck or rich soil of any kind, allowed to remain in the heap for a considerable time, and then applied to the orchard, etc., it will be more beneficial than a much larger quantity used without mixing.

Protect the Roots of your New Trees.

Many cultivators and gardeners, as soon as a lot of trees or shrubs are received from a nursery, are apt to leave the roots exposed for several hours, or even days, to the cold winds or to the dying rays of the sun. It is hardly necessary for us to repeat here, as we have often done before, that it is a *pernicious species of negligence*. Plant them at once as soon as opened, and do not leave them more than an hour unplanted. The roots, unless soon placed in the earth in their proper place, shrink up, are dried, and never recover their proper vigor of growth. Neither is it well to use too much water in planting our trees. A little to settle the earth closely around the root is well enough; but to insure perfect and permanent moisture, apply a good mulch of hay, straw, etc., over the ground for three feet around. When this is done the tree will need no further watering, for the shade of the mulch is itself attractive of moisture.

Drainage.

Every piece of ground, before planting, should be well drained, or else planting must be sooner or later a failure. Where trees have been already planted on undrained land, and the water stands around the tree in pools, or the soil seems unduly wet, the best method to adopt is to throw up a hillock of dirt of eight inches or more in height, extending out three feet from the trunk of the tree. This will keep the water away from the roots; in summer you can spread this soil again out flat. There is no surer way to induce *blight* than neglect in drainage. Those who are too anxious to plant out largely, are reminded that a few trees well treated will pay more than ten times their number who are invariably stunted, because they lack all the condition of successful growth.

Cherry Trees in Grass.

As a rule, it is not best to cultivate cherry trees, by which we mean stir the soil around the trunk and roots, the same as we are accustomed to do with other orchard crops. The reason is very simple. Cultivation is *stimulation*; this induces *extra growth*. This, in the cherry, results in the bursting of the bark and the oozing of the gum. When once this commences, we cannot long depend upon the good health or permanent livelihood of the tree.

We have seen so many instances lately where cherry trees planted in grass, and kept in grass, are so bright, and clean, and healthy, and vigorous, that we think it may be fairly set down as a rule, that for *cherry trees, cultivation in grass* is decidedly an excellent course. The ground should not be stirred. No other crop or tree should be grown between, and the grass should be constantly mowed and left to rot upon the ground. No manure need be applied, save at the outset. All that the cherry tree needs is a good mulch for its roots, and something to prevent its too rapid succulent growth.

Almost any nurserymen now knows that young cherry orchards should be well mulched immediately after planting, and kept so. If not mulched during a long, hot, dry summer, fully one-half will dry up and die. Still another thing must be remembered by cultivation—*never plant a cherry tree after the buds have started*; in fact, never take up one unless for immediate transplanting. In our Southern border States, cherries might be made a good, healthy, profitable crop, and to those who do not care to plant an orchard exclusively into cherries, we think if they would plant a row in the grass border around the fences of their farm, they will find not the slightest trouble in successful culture.

Ex-Gov. Ross, of Seaford, Del., in a letter, a year ago, said that he never succeeded in cherry culture until he planted his trees in grass, and left them to take care of themselves.

We would not advise this policy for pear trees, and must not be understood as advising the grass theory for any other trees than cherries, and that, too, principally south of the latitude of New York.

Pruning for Pear Blight.

I observe there has been great complaint the past season about pear blight. Now if I can point out a remedy for this ruthless destroyer, I know I shall receive the thanks of many. If I have not found the *root* of the matter, I am not far from it.

In my garden I have a number of trees that have been repeatedly attacked. Sometimes I have let the disease progress until the tree seemed almost hopelessly destroyed. I did this in order that my theory and practice might the more thoroughly be tested. I never have failed in any instance to check the blight and restore the tree. My theory is that the disease is in the *root*, and grows out of the disproportion between the root and the top. When I discover the disease, I top or prune freely; sometimes this operation has to be performed with the nerve and resolution of a regular army surgeon. When the disease is stubborn, and yields not kindly to amputation of limbs, I mulch and water with soapsuds, to revive and quicken the roots. This practice has never failed in any instance.

In my yard, where the trees are more shaded and the roots never molested, and the ground covered with sod to retain moisture, no blight has ever occurred. In the garden the ground is regularly worked, the roots more or less interfered with, and the sun has full power to dispel the moisture from the roots; hence I think there gets to be a disparity between the roots and top, and blight is the result. Let every one who reads this contrast it with his own experience, and the facts and observations of others, and I think we will be able to manage the blight. I prefer, if not a moist, at least a retentive soil for pear trees, and think constant cultivation among them will sooner or later produce blight. I think my diagnosis is correct, and I know my practice is.—*Country Gent.*

The Frozen Ball Method of Transplanting.

The frozen ball method of removing ornamental trees is preferred by many to all others for some purposes. It is well adapted to evergreens growing wild, if they are of much size. In order that it may be easily and expeditiously performed, preparation should be made in autumn or before the ground freezes hard, by digging a trench in the shape of a circle about every tree a foot deep, or as far down as the frost penetrates, and then filling these trenches with dead leaves, which are always abundant at this time of year in the borders of woods or wherever these trees are sought. The leaves will prevent

the trenches from freezing in winter, and the earth within them from being frozen hard, the trees are easily loosed and tipped over, and may then be readily transferred to sleds and conveyed to their place of destination, where holes, dug at the same time that the trenches were made, and similarly filled with leaves if convenient, or left open and frozen, may receive them. If holes and balls are both frozen hard, and are nearly equal in size, the first thaw will soften the ball and give it a close fit. But it is rather better to keep the hole unfrozen, so that the ball may be snugly embedded in the mellow earth when placed there. For well rooted nursery trees this mode is not applicable; but we have found it well adapted to the removal of evergreens from the borders of woods in winter, when the work could be more deliberately attended to than during the busy period of spring.—*Ex.*

Pleasant Thoughts.

Love of Flowers.

WHEN Bishop Hough visited Archbishop Sancraft after his retirement to Suffolk, he was discovered working his garden, and immediately said to his visitor, "Almost all you see is the work of my own hands, though I am bordering upon eighty years of age. My old woman does the weeding, and John mows the turf and digs for me; but all the nicer work—the sowing, grafting, budding, transplanting, and the like—I trust to no other hand but my own,—so long, at least, as my health will allow me to enjoy so pleasing an occupation; and, in good sooth, the fruits here taste more sweet, and the flowers have a richer perfume than they had at Lambeth."

The Atheist and the Acorn.

An atheist, cold and cheerless in his creed, was one day resting himself beneath the branches of a spreading oak. It was autumn, and the golden acorns gleamed among the green leaves. He looked up to the oak tree and then surveyed his garden which lay before him. "I always thought," said he to himself, "that this world is the result of mere accident, and now I can no longer doubt it. There is no evidence of any skill anywhere; all is bungling and confusion. For instance, there is that large round pumpkin, whose stem is so slight and feeble that it cannot raise it from the ground. Now, above me is a sturdy oak, whose branches could support pumpkins even twice as large, whereas they hold nothing suspended but the tiny acorn. This is sufficient evidence to me that the world cannot have been created by a superior intelligence." Thus far had he proceeded in his soliloquy, when the wind loosened a ripe acorn from the topmost bough, and the little nut falling down, hit the self-conceited scoffer in the eye. "Ah!" said he, as he smarted with the pain, "I think I must reconsider my opinion. Had pumpkins grown on oak trees, and this acorn been one of them, I rather fear my philosophizing would have been finished forever."

Loudon, the Great Gardener.

Loudon, the great English landscape gardener, was a man possessed of an extraordinary working power. The son of a farmer near Edinburgh, he was early inured to work. His skill in drawing plans and making sketches of scenery, induced his father to train him for a landscape gardener. During his apprenticeship, he sat up two whole nights

every week to study; yet he worked harder during the day than any fellow-laborer. During his studious hours he learned French, and, before he was eighteen, translated a life of Abelard for an Encyclopaedia. He was so eager to make progress in life, that when only twenty, while working as a gardener in England, he wrote down in his Note-Book: "I am now twenty years of age, and perhaps a third of my life has passed away, and yet what have I done to benefit my fellow man?" An unusual reflection for a youth of only twenty. From French he proceeded to learn German, and rapidly mastered that language. He now took a large farm for the purpose of introducing Scotch improvements in the art of agriculture, and soon succeeded in realizing a considerable income. The Continent being thrown open on the cessation of the war, he proceeded to travel for the purpose of observation, making sketches of the system of gardening in all countries, which he afterwards introduced in the historical part of his laborious "Encyclopaedia of Gardening." He twice repeated his journeys abroad for a similar purpose, the results of which appeared in his Encyclopædias—perhaps amongst the most remarkable works of this kind, and distinguished for the immense mass of useful matters which they contain, all collected by dint of persevering industry and labor, such as has rarely been equaled.

Sleeping Flowers.

Almost all flowers sleep during the night. The marigold goes to bed with the sun, and with him rises weeping. Many plants are so sensitive that they close their leaves during the passage of a cloud. The dandelion opens at five or six in the morning, and shuts at nine in the evening. The goat's beard wakes at three in the morning, and shuts at five or six in the evening. The common daisy shuts up its blossom in the evening, and opens its "day's eye" to meet the early beams of the morning sun. The crocus, tulip, and many others, close their blossoms at different hours towards the evening. The ivy-leaved lettuce opens at eight in the morning, and closes forever at four in the afternoon. The night-flowering cereus turns night into day. It begins to expand its magnificent sweet-scented blossoms in the twilight; it is full-blown at midnight, and closes never to open again with the dawn of day. In a clover-field not a leaf opens till after sunrise. These are the observations of a celebrated English author, who has devoted much time to the study of plants, and often watched them during their quiet slumbers. Those plants which seem to be awake all night, he styles "the bats and owls of the vegetable kingdom."

American Horticulture as Seen by an Englishman.

M R. W. Robinson, of London, England, an associate editor of *The Field*, and the author of that successful volume, "Parks, Promenades and Gardens of Paris," visited us the early part of October, and spent a few hours of pleasant conversation. He is now visiting our principal American cities, wherever our best examples of American park, garden or landscape work can be seen, and hence to California. In an article written to *Hearth and Home*, on his impression of the character of our horticulture, he expresses himself delighted with the wonderful abundance and size of our fruit.

"It is difficult for me to say how much I like your noble country. I think I am more enthusiastic about its capabilities than most Americans. Your fine scenery, vast tracts

of fertile and well-cultivated land, noble rivers, and beautiful hilly tracts, such as those in many parts of Pennsylvania, and your fine flora, from oaks to gentians, have afforded me much pleasure and interest.

"Although I heard many grumble in America, at the climate as unfavorable for gardening, I think it a beautiful one for this purpose. You complain of having endured the hottest summer known for many years, and folks say to me, 'You have come the worst possible time to see our gardens;' but to my surprise, I see your forest trees retaining their verdure as late as, if not later than they do in 'green England.' And I have frequently seen lawns in England, in dry seasons, browner than any of yours."

Lack of Gardens —He complains, and with perfect justice too, that with all our facilities of fruit culture, and an admirable climate, we have lost the *love of gardening*. "I am nearly disheartened to see the houses in nearly all parts of the country I have visited, as bald and bare and uninviting, from the absence of any trace of a garden, as the flank of any grim sea-rock. Along the banks of the Susquehanna—a region that seemed to me one of the noblest and sweetest of Nature's own gardens—I saw numbers of what appeared to be farmers' or respectable mechanics' houses, with hateful, tall green-flowered weeds leaning over the path to the door, and no trace of any plant useful to man, or beautiful. Sometimes the walls started stark-naked from hard and not clean pathways. Sometimes a few insect-worried cabbages approached even the door-step. What a difference between what Mr. Carlyle calls '*an umbrageous man's rest*, in which a king might wish to sit and smoke, and call it his,' with its roses and honeysuckles and fuchsias clambering in through the very windows in crowds, and the dreary, arid prospect round thousands of American houses.

"I have been told more than once that the climate discourages people from attending to gardens; but that this is not the real cause, I know; for I have seen not a few villa gardens in this country as fresh and beautiful as any with us. I notice the old flowers of English gardens thriving here and there, and even if such subjects should 'burn up' in summer, have you not *sub-tropical plants* wherewith to embellish your gardens with deep and graceful verdure? Everywhere I have been sub-tropical plants thrive better than they do with us, and *Cannas* and *Caladiums* ought to be as easily preserved through the winter here as the dahlia of an English garden."

Here, at last, we have a candid opinion from an unprejudiced person, and behold how well it *confirms the very words we wrote* to the *English Gardener's Magazine*, on the *Characteristics of American Horticulture*. Every word of ours is fully proved by the best of witnesses. In that article we deplored the lack of gardening in America. We deplored the exclusive attention to fruit. We said that the great mass of the people had little love for horticulture for its own sake, save as a means to make money, while *home gardening* had never been as fully encouraged and developed as it ought. Our friends of the *American Agriculturist* and *Gardener's Monthly*, who felt we were doing injustice to our side of the Atlantic Ocean, can now see what *others think of us*, and find that our position is *sustained after all*.

Editorial Notes.

Success.

NEVER was a word so cheerfully written, and never did any enterprise deserve so worthy a compliment as the good old HORTICULTURIST. Its Twenty-fifth Anniversary has been indeed a *Silver Wedding* in its financial career. The past year it has paid its proprietor a dividend of **70 per cent upon its capital**, while its good will and privileges, under a very moderate valuation by others, has increased **130 per cent**.

Is not this a record worthy of mention? After twenty-five years of chequered fortune—sometimes up and sometimes down—its twenty-fifth year at last is its most successful one, and to-day it is stronger than ever in the memories of its friends. Give thanks, friends, to Providence, who remembers the efforts of those who “try to help themselves.”

High Training for Fruit Trees.

Dr. Swasey, of the *Southern Horticulturist*, gives up the pyramidal system of training pear trees, and now advocates high training altogether. He explains the system as follows: “Lat spring we received from New York a lot of the finest pear trees, both standard and dwarf, that we ever saw. They were two and three years old, and had been cut back and pruned on the most approved pyramidal system, with low heads branching widely at bottom and tapering off beautifully to the leader at top. They were models of symmetry; and had we designed them for the garden, lawn or avenue, we would have gone into ecstasies over them. But we wanted them for the *orchard*, to replace other trees that had died or been removed, and so, with a sharp knife, a steady hand, and eyes closed to their pyramidal beauties, we began a vigorous onslaught upon their nether branches; nor stayed this seemingly unwise warfare until every standard showed a clean unbranching stem of four feet, and every dwarf one of two feet. At these respective heights, we commence the formation of the “head,” by leaving three or five—always an odd number—equally-distributed main branches, cutting out the “leader” immediately above them. These branches were [cut back to about 6 to 12 inches, according to strength; and, in cutting, were careful to cut to an outside bud, or to one that should throw the future shoot from it into the widest unoccupied space.

“The object in the high training was to give free access under the head of the tree for light, air, whitewash brush and team—in cultivation—and the cutting out of the leader and confining the base on the head to three or five main branches, as well as the cutting to an outside bud, was designed to give us an open, round-headed tree that should give every leaf and fruit an equal chance to the vivifying influence of sunlight and air.

“Our only training through the season has been to rub off all shoots that have sprung from the roots or trunk below the main branches, and all that cross or crowd each other in the centre of the head, as well as all those that have a downward tendency on the outer side of the branches. This same treatment will be pursued a couple of years more, after which, if the trees continue to make a good growth, we never expect to touch them with either knife or pruning saw.”

NOTE.—Mr. Swasey’s theory of exposing all the branches to air and sunlight is certainly excellent, and undoubtedly, for a Southern country, high training would be most beneficial. Here in the Middle and Border States, fruit-growers are in such love with the *pyramidal* system, it is impossible to induce them to change. The system allows of closer planting, they are easier handled, easier pruned, and, if well pruned, the branches have all the sun and light they actually need, and yet the fruit is quite as abundant, more easily picked, or less injured in falling to the ground. Besides this, fine sturdy branches are developed, which will bear any weight of fruit without breaking down. We have not yet seen the first disadvantage from pyramidal training, and would be glad to have any one point it out.

The Barnes Mammoth Strawberry.

In the East, it has been a failure this year, yet, in the West and South, it has been exceedingly successful. We apprehend it does best in a moist season.

The Wilder Strawberry.

In the West the foreign variety is succeeding better than the native; the latter dying out, at least only a moderate grower, while the other is large, showy, of high quality, and very firm. It would certainly be a singular fact if Mr. Wilder was to be indebted to a foreign source for the most successful of the two varieties bearing his name.

Northern vs. Southern Nursery Trees.

A leading nurseryman informs us of the reason why pear trees are so generally preferred from Central New York, instead of from further South, for Southern planters. Because in the North fully eighty-five per cent of all the trees grown in the nursery are good and reliable, well formed and vigorous; while in the South not over fifty per cent can be depended upon as trees of the first class. In other words, a Northern nurseryman who buds 100,000 trees can generally feel sure of 85,000 good, first-class, saleable trees; while in the South fully one-half would be too poor to sell.

We believe the remark a very just one, from what we have seen of Southern nurseries. So we think none should complain of our northern-grown trees when they are furnished uniformly at fair prices, in good condition and superior average quality. But we will give credit, on the other hand, to Southern growers by saying that they can raise better pears—larger ones—than any one can produce here. So the advantages of each section are thus harmoniously balanced. We say this much because we observe an attempt among some Southern nurserymen to discourage the purchase of trees of our Northern nurseries, by argument that Southern trees are better in every respect. We do not find their arguments well verified.

Plant Trees.

We esteem *tree planting* hereafter to be a more profitable undertaking than either fruit culture, gardening or farming. Our American forests are being destroyed at a rate perfectly startling to the ideas of any one not familiar with the facts. The United States Department of Agriculture states that during the decade from 1850 to 1860, twenty millions of acres of timber land were cut down and put under cultivation, and during the decade from 1860 to 1870, it is estimated the census will reveal not less than one hundred million acres so cleared. Not a single acre has come into bearing to supply this enormous deficiency, and unless our American farmers are alive to the necessity of replanting their waste fields in useful timber, we will have an actual famine for wood within thirty years.

Were we the possessors of 100 or 1,000 acres of land in Illinois, Iowa, Nebraska or Kansas, we could not put it to a more profitable use than to plant in larch, chestnut, oak and other woods, and wait ten, twenty or thirty years. We believe it would be a substantial inheritance to our children and a benefit to posterity, while the value per acre could not well be less than \$200. The planting of forests is also an amelioration of climate, and were the West once freed from its cold winds, and an agreeable, uniform temperature induced, without dangerous extremes, the occupation of gardening and fruit culture would be fraught with less hazard, and give more abounding and regular returns. *Plant trees, then, for your own health and prosperity.*

A Fine Green House.

The new Green House at Washington, for the erection of which Congress made appropriation at its last session, is nearly completed. It is 470 feet in length, and presents a very fine appearance. One section of this building will contain grape cuttings, now on the way from Europe, embracing every variety grown in that country. Another section will be devoted to the propagation of medical plants derived from foreign points, with a view to their future culture in the United States. Still another division will receive assignments of choice imported floral productions, and yet another to experiments in the growth of fruits, native to Russia and other powers, now exchanging with this department.

Wisconsin Horticultural Society Transactions.

We have received from the Secretary, O. S. Willey, the Annual Report for the year 1869, containing the Addresses of the President, Reports of the Secretary, and description of new fruits, together with discussions thereon. The Society seems to be in excellent condition and progressing rapidly.

Pleasant Valley Fruit and Wine Reporter.

This is a new semi-monthly, published at Hammondsport, N. Y., by A. L. Underhill, directed especially to the interests of grape culture and wine making in the grape regions of Central New York. It is printed in a most superior manner, has a pleasant general look, and bears evidence of good editorial talents. It starts with prospects of becoming a permanent success, for we know it will be supported with the necessary capital and enterprise.

Rural Home Visitor.

This is a new weekly published by T. A. Bland; \$2 per year; devoted to rural affairs and home economy. It has a very pleasant, inviting appearance, and contents are well selected.

Beauty of our American Parks.

Mr. Robinson, whose article we refer to in another column, says: "Your public parks, as far as regards design, are not surpassed by those of Europe. I have been much surprised at the beauty of surface of such parks as those of Philadelphia and Baltimore."

Beauty of American Climate.

Mr. Robinson says: "O Americans! never blame the climate, for it is an admirable one. The succulent vegetables of the old country grow here, with very few exceptions, and by their sides you gather the ears of the stately and graceful maize—most useful of its wonderfully useful family. *Muskmelons* better than those which cost an English country gentleman six dollars each to produce on hot-beds and in glass houses, grow side by side with your delicious sweet potato, which I used to grow as a curiosity in a hot-house. Our old and popular Williams pear (you call it the Bartlett), larger, sweeter and more golden than with us, falls by the side of egg-plants, with fruit so large as to be a constant source of surprise to me, who had often grown the fruit to the size of a turkey egg in hot-houses in England. Rosy-cheeked English apples are seen above the quaint, large-flowered of the okra, which to us is an impossible exotic. Blessed by every variety of climate, and with its peoples not hedged out from each others' improvements by strange tongues, I look forward to the time when this vast country shall be more famous for rural beauty than for the wealth of her many cities."

The Small Fruit Recorder.

This is to be enlarged to double its present size, and published at \$1 a year, for 1871. It is a wide-awake, entertaining little sheet.

Can't Do Without It.

Hosts of our subscribers write us that they *cannot do without* THE HORTICULTURIST. This is exactly the point we have been aiming at for the last two years—to make the magazine so good that every one will welcome it heartily to a permanent place on their library table. We are greatly encouraged. Every one has a good cheerful word, and we feel at last like one who has overcome all obstacles, and stands on the grand plane of success. The friends of THE HORTICULTURIST admit it is every thing we have claimed for it—dignified, yet popular; practical, yet not dry or tedious; lively and piquant, but not sensational. Our rivals generously admit it is *the most abundantly illustrated* of any of its class in the country. Every one of our exchanges have given it hearty notices of good will. Our advertisers have patronized it splendidly, and we feel as though we had gained the old *vantage ground* it once held under Downing as *the best and most popular journal of its character in America*. We have yet to hear a word of fault. Every one gives genuine testimonials of appreciation for the vast improvement which has been accomplished. And yet we have not had the opportunity to carry out one-tenth part of our plans. Stand by us, friends; do not miss a single number, and we will yet produce a journal worthy of your highest respect and regard—the *ne plus ultra* of its profession.

Our February and March numbers will be equal in merit to this number. We have got so much excellent matter on hand we cannot find room for it all now.

Horticultural Notes.

Thickness for Mulching Trees.

A amateur cultivator of fruits inquires the proper thickness for mulching, remarking, "a large apple or pear will, I suppose, bear three or four inches; not so small fruits. I think half an inch is about enough for them; also for small trees. I've seen folks mulch strawberries four inches thick—enough to kill them, for the air cannot well get through it. When mulching is rather scarce, if we lay it around our young trees, as far as the rootlets extend, will not this answer pretty well, or must it be spread still further? Would you recommend hay or straw over half an inch thick, packed close, for trees only three to seven feet high?"

The thickness must vary greatly according to the object in view, and with various circumstances. We have been in the practice of mulching more heavily than our correspondent. For the winter protection of strawberry beds, he is correct in recommending caution against deep covering the whole surface to prevent smothering the plants. The depth may, however, vary much according to the nature of the material. Soft hay or oat straw quickly packs solid when drenched with wet, and an inch or two would be likely to kill the plants. Rye straw is much stiffer, and might be safely laid on more heavily. Evergreen boughs are still more rigid, and the stiffer spruces and pines, if not cut into very small branches, can scarcely ever do any injury. A winter mulching, even if quite thin, is of much service in protecting the bare surface of the earth and small plants from sharp freezing winds. Any one may satisfy himself on this point, by examining the various depths to which the ground has frozen with a bare surface and with different thicknesses of mulching, as the earth is freezing at the beginning of winter. When a bare surface, exposed to the sweep of the winds, has been found frozen six inches down, a thin covering of grass in another place has prevented it from freezing more than an inch or two, according to observation and measurement. The mulch, in this way, retards the freezing and retards the thawing again; and thus preventing sudden transitions, affords great protection.

For the winter, mulching of half tender trees, we should not fear to apply litter copiously; as, unlike the green plants of the strawberry, they cannot be smothered. Mice are excluded by a previously clean field, and a small smooth mound previously embanked around each tree.—*Ex.*

Iron for Pear Trees.

I had a very fine pear tree (Flemish Beauty) that became affected, first by blight in one limb, which I removed, and then another and another was affected in the same way, until I had removed a considerable portion of the top of the tree. Early next spring I resolved to try the application of scrap iron to the roots. I procured my iron, removed the soil from the roots carefully, deposited the iron between them, and replaced the earth. There was no further progress in the blight, the tree continued to grow that season, and the next leaves and blossoms came out vigorously, no black spots appeared on the leaves and the tree bore finely, and no appearance of disease was seen in the tree afterward. In subsequent conversations with friends I found that some of them had become informed on the same subject, and had tried the remedy with perfect success. Some told me they had procured turning and drilling chips from the machine shops and had used them, as they thought, with much advantage to their trees.—*Cor. Rural Messenger.*

The New York Tribune.

Horace Greeley's Essays, "What I know of Farming," which have been published in *The Tribune* every week during 1870, are to be printed in Pamphlet form, and a copy will be sent, post-paid, to each subscriber who sends \$10 for *The Daily*, \$4 for *The Semi-Weekly*, or \$2 for *The Weekly Tribune*, and requests the book at the time of subscribing. This will enable old subscribers to secure the Essays for preservation, on renewing their subscriptions, and new subscribers will, of course, be glad to obtain them, free of cost. See advertisement on opposite page for club terms.

Errata.

The article on p. 365, December No. last, should have been credited to Edgar Sanders instead of Dr. Hull. On p. 362, read *musty* instead of *musty juice*.

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Will it Pay to Grow Pears?

THE past year's experience in growing pears as a source of profit, differs widely in many respects, from that of any other season, since I have been engaged in the business, and some of the facts developed are worthy of the attention of practical fruit culturists.

Although the winter of '69 and '70 was unusually mild, and open from December until the first of April, the early and continuous fine settled weather of the spring months favorably disappointed everybody, and brought about conditions, during April and May, or through the critical period in fruit culture, the blossom time, that were satisfactory to those interested in the production of small as well as large fruit.

The first week in May our pear orchard was in full blossom, and from the moment the first blossom appeared until the last petal fell to the ground, there was not an unfavorable or harsh blast to disturb the "wedding in the orchard." The customary cold north-eastern rain-storm failed in this instance to put in an appearance, and the result was, the most uniform and largest "set" of pears, through the whole orchard, that we ever had, on the same number of trees in a single season.

Notwithstanding this heavy set of fruit, the younger trees started a vigorous growth of wood, and both trees and fruit gave striking evidence even as early as the first of June, that there would be a large crop, and only with careful and radical thinning—the specimen or individual fruit could be brought to the full size.

At this time reports came from all parts of the country, that the fruit crop was very large, the apple especially. The markets were then abundantly supplied with Strawberries, followed by Raspberries, of which there were thousands of quarts sold in New York market for six cents a quart, and under. At one period the market was so overstocked with Blackcap raspberries, that there was no established price; they were sold for anything offered for them.

This condition of things was not in the least consoling to a person having a large crop of fruit; a well supplied market and corresponding low prices seemed almost certain to fruit-growers who watched the market reports closely.

Being fully alive to the fact, that in such fruitful years, when every fruit-bearing tree or bramble was overladen, the markets would, judging from the past, be overstocked with medium to small sized fruit, and this class of fruit would sell at very low prices.

About the middle of June, we went to work with a determination to thin out from every tree in our pear orchard, a certain portion of the crop. It was hard work, and at first appeared sinful to deliberately take off so many fair specimens of fruit, for strange to say, the entire burden of fruit then was almost uniform in size, being free from insect marks. From hundreds of trees more than half the fruit was taken off, and very few, less than a third, of what then was on the trees. In places, the ground was fairly covered, as far as the branches extended, with the pears that were pulled off.

When the job of thinning was finished, the effect in a few weeks began to show itself. The rapid and uniform increase in the growth of the crop of pears, was plain to be seen; the only mistake or blunder made, was in some instances leaving too many on the trees. In such cases, the bulk of the fruit grew only to medium or small size.

The orchard was cultivated during the spring and early part of summer. About mid-summer it was mulched with salt marsh hay, cut and cured for the purpose. This method we like better the more we practice it in pear culture. It serves a double purpose, of saving the fruit from being injured when falling from the trees, besides, the ground underneath is kept moist and loose, and the weeds prevented from growing.

The peach crop was very large, and prices ranged low. Thousands of baskets were sold in New York market for less than the expenses in transporting them from Delaware. Early apples were abundant and cheap, with a full supply of Raspberries and Blackberries.

On the 13th of August, we sent our first Bartletts to market and they brought \$10 per barrel, or that amount for two and a half bushels. During the following two weeks they fell to \$8 per barrel, for good fruit, and they sold from \$7 to \$8 until the first of September, when prices advanced to \$10, and from then, until the Bartletts left the markets, prices advanced steadily. The 13th of September, we sold the last of our crop of Bartletts at \$18 per barrel. At this time choice, early apples were selling for \$1.50 to \$2 per barrel, and fine plums from \$8 to \$12.

All kinds of pears, owing to the protracted drought and intense heat, ripened two to three weeks earlier than usual. We commenced marketing Duchesse d'Angouleme as early as the 10th of September. These, however, were "drops," but falling on the hay under the trees were not injured.

These drops carefully put up in new half-barrels brought \$5 per half ($1\frac{1}{2}$ bushels), with a good demand, considering the quantity and low prices that other kinds of fruit were then selling for in New York market. Good sized fruit of the Duchesse, carefully packed, ranged from \$8 to \$20 per barrel through the season, and like the Bartletts, late in the season prices advanced, so that on October 25th, second class fruit brought higher prices than first class did a month before. No. 2 fruit (Duchesse) sold readily at \$12 per barrel, in the latter part of October.

Our crop of Duchesse was large, and the fruit large and uniform in size.

During the past season we sold of the Duchesse d'Angouleme 1,155 bushels, which net us a fraction more than \$4 per bushel for the whole crop; that is, deducting the price of packages, freight, cartage and commission.

The apple crop was unusually large, and of very fair quality. Cider makers in one

district of New Jersey bought thousands of bushels of apples for from ten to twenty-five cents per bushel. Towards the end of November, a few of the makers paid for sound choice fruit 50 cents per bushel. Peaches, grapes, and all the small fruits were plenty, more than an average crop, all over the country.

The crop of pears in districts where they are cultivated for market, was larger than usual, and the markets were well supplied; still prices ranged higher than for any other kind of hardy fruit, and growers need entertain no fear of "overdoing" the pear for the next ten years, at any rate.

P. T. QUINN.

Design for a Flower Table.

As an appropriate accompaniment to the subject of Home Decorations in Winter, we introduce this charming design of a new flower table. It needs very little explanation. In all our large cities there are wire makers who manufacture flower stands, hanging baskets and other simple objects for household use and ornament. This stand may be entirely circular, or in the form of a semi-circle, in which case it will fit easily into the alcove of any window, and the circular portion will project out into the room; or, if the window should be circular, like that of a bay window, and project out from the building, then this table will easily fill the space, and gain the benefit of an abundance of light and the warmth of the sun's rays. It may be constructed entirely of wire, or the lower part may be made of wood, and the upper part of wire, with a tin or zinc pan for holding the earth. Soil may be used for growing the flowers, or, still better, wood mold from the forests. Moss also can be used appropriately and kept constantly moist. Sand also, if convenient, can be used for such flowers as thrive best in it. Care must be taken to allow some means of drainage, to remove the superfluous water. The size of the table

is about four to five feet in diameter, and stands about two and a half feet from the floor, the upper railing not being over three ft. high. It can be adapted in winter and early spring to tulips, hyacinths, and other bulbs, and in later spring or summer to plant of ornate foliage. The design is really elegant, and will be found a most graceful ornament for floral decoration.



Home Decorations in Winter.

MANY pleasant and suggestive papers have been written on the subject of house decoration, and the arts of design have been put to useful purpose in the cultivation of refined tastes. It is so simple a matter to make a dwelling bright and cheerful in all seasons, to fill a corner here and a niche there with objects upon which the eye gladly rests, to displace sharp angles by curves, to place upon the walls a bit of rich color, or to set a branch of ivy climbing, that it is a cause of wonder that so little is done in this direction. The busiest man or woman could spare an hour or two for the labor of making such inexpensive and beautiful decorations.

A contributor to the Springfield *Republican*—Annie S. Downes, of Andover—offers some timely and sensible hints concerning the uses of house plants in winter, showing what can be done with a few common flowers. The writer says:

For Sunny Windows.

If your window is sunny there is no limit to the flowers you may have from Christmas until the wild ones come again. With two maurandias, one white, the other purple, with a high colored dwarf nasturtium, or tropaeolum, as it is properly an English ivy, and a vigorous plant of German ivy, or senecio scandens, you can make a screen for your window more beautiful than any Raphael or Da Vinci ever designed, for yours is the perfect original of their defective representation. The vines should be at the ends of the box, so as to be trained on the sides and over the top of the window frame. Then close to the glass, for, true to its name, it loves the sun, put a heliotrope or two, a trailing winter blooming fuchsia, a scarlet geranium, and for the sake of contrast, a white one, whose flowers have a bright eye in the centre. Do not be afraid of crowding the plants, but sow mignonette and sweet alyssum seed, as well as the tiny ones of Linaria Cymbalaria or Coliseum ivy. If not intending to have but one box, do not forget a plant or two of the neat, handsomely marked petunias, for they will give you a mass of flowers from the first week of blooming until put out in the garden in the Spring. Yellow myrtle, and the plants commonly called Wandering Jew, and ice plant, as well as a variety of saxifrage known as beefsteak geranium, may be made to droop over the front of your box, and their graceful sprays will reach even to the floor if you wish.

For Shady Windows.

But you have no sunny window. Well, then, for a shady one. A box of the same kind must still be your resort. In one end insert a healthy tuber of madeira vine, and in the other a well started German ivy, for sun or shade it seems to like equally. Then, instead of the flowering plant I have enumerated, go out into the woods, and take up before the frosty nights have enfeebled them, clusters of fern roots, and put them in the centre. You will find so many varieties that you will be bewildered, but select over all others the lovely Dicksonia so common by walls; the tiny spleen wort, the enchanting maiden hair, and the piquant polypodiums or rock crosses.

Under the shadow of these ferns you may set rattlesnake plantain, both varieties of which are common in our woods, mitchella vine, the odd pitcher plant, and hepaticas. The leaves of the latter are pretty and interesting all winter, and very early in Spring its lovely blue flowers will gladden you. If you shower this box of wild plants once a week, and do not keep your room too hot or let them become too wet, they will form a

never-ending source of interest to you and your whole household. The manner in which the young ferronds push their way to light, the singular hairy furze that envelopes some, and the intricate folding of others, will afford food for thought and topics for conversation when new books are scarce and the weather too bad for friends to visit you. The delicate, wonderful beautiful ferns from the tropics, will, with the same care, do nearly as well; but they are of high cost, and I have sometimes thought when I have succeeded in domesticating these shy people of our woods and swamps, that they put me more immediately in sympathy with nature.

Hanging Pots.

Besides these boxes, you may have one, two, or even three, hanging pots in every window, almost without reference to sun, for many plants, suitable for this situation, seem indifferent to his presence. The exquisite blue lobelia is very impatient of his beams. Smilax, too, popularly supposed to flourish only in hot-houses, does well in sunless situations, and is as valuable as beautiful; for no daintier adornment to a lady's dress can possibly be desired, than its shining leaves and graceful sprays. Be careful and keep off its deadly enemy, the red spider; for so certain as he touches those perfect leaves, their beauty is gone. Remember that eternal vigilance is the price of handsome smilax, as well as liberty, and shower early and late, whenever you can find the time. The freely flowering pink oxalis cannot be praised too highly for a hanging pot. I never knew the bonny, cheerful, little creature to harbor insects; and its way of falling asleep at night, and waking in the morning, is irresistibly attractive. Its first cousin, the "oxalis flava," is very handsome and should be cultivated at all costs; but it is chary of its flowers, and demands far more care of its possessor. The less common varieties of oxalis, sold by florists, are many of them very desirable, both in size and color; but they are comparatively delicate, and perhaps in unskilled hands might fail.

English Ivy.

The use of English ivies for the purpose of decorating living rooms, is more extensive every year, and cannot be too highly commended. Being very strong they will live through almost any treatment; but study their peculiarities, and manifest a willingness to gratify them and they will grow without stint. Most houses are too hot for them, as indeed they are for their owners. Neither plants nor people should have the average temperature over sixty-five degrees Fahrenheit. Take care and not enfeeble your ivies by undue heat or excessive watering, and you will find that they will not seem to mind whether the sun shines on them or not, or in what position or direction you train them. Indeed, so much will they do of themselves to render a room charming, that I would rather have an unlimited number of them to draw upon, than anything else in nature or art. Do you wish the ugly plain doors that shut off your tiny entry from your parlor to be arched or curved, like those in the drawing rooms of your richer neighbor? Buy a couple of brackets, such as lamps for the burning of kerosene are sometimes placed in, and screw them on the sides of the door. Put in each a plant of English ivy, the longer the better, then train the plants over the top, against the sides, indeed, any way your fancy dictates. You need not buy the beautiful but costly pots the flower dealer will advise; common glazed ones will answer every purpose, for by placing in each two or three sprays of Coliseum ivy, in a month's time no vestige of the pot itself can be discerned through their thick screen.

Experiments with Turnips.

IN October, 1869, I planted on rich, sandy loam, good Sea Island cotton land, Yellow French and German Tultowa turnip seed; both grew vigorously; very soon the Tultowa had got its full growth, and was entirely under the ground; it is a small root, but for flavor is the best of all turnips. The Yellow French grew partly in and partly out of the ground; it is larger than the Tultowa, but very inferior to it in flavor.

This Fall, seeds of the Yellow Stone and Flat Dutch turnips were sent me; both planted on a sandy loam, and have done well. The Dutch has grown almost entirely out of the ground, the Yellow Stone under the surface. The Yellow Stone is every way the best table turnip. From this, I learn that where there is a variety of the same root, that which grows under the surface is the best for the table.

A fruit tree is never to be taken up to be placed elsewhere, after having been transplanted once. If it takes root the first time, ninety-nine times in a hundred, it will keep on growing; if you transplant it a second time, it may grow again or it may not; no wise man will accept a chance for a certainty; time is money; if it takes ten days to transplant a thousand trees, it will take twenty to do it again in this case; by doing over what has already been done, you accept a chance for a certainty, you lose time, and above and beyond all you demoralize yourself; in place of having a fixed purpose, you waver and lose confidence in your own judgment. The precept of divine writ is, "no man having put his hand to the plow and looking back, is fit for the Kingdom of God."

ALEXANDER W. COWPER, Ga.



New Seedling Dahlias.

MR. GERHARD SCHMITZ, of Philadelphia, for the past twenty-five years has occupied a large part of his time in the improvement of his favorite plant, the Dahlia, and has in past years produced some very creditable specimens. They are noticeable particularly for their *dwarf habits*, yet full blooming qualities, and have the following general characteristics: globular form, short, round, well cupped petals, full to the very centre, and are far superior to any of the European varieties usually imported into this country. The first Dahlia ever known was introduced from Mexico, by Baron Humboldt, in 1789, a flower then of very little value, with only a single row of petals around a large centre or disc, and producing seeds very freely. Since that time florists have improved it so vastly that from twenty to thirty rows of petals can now be counted around on the disc, and there are shades innumerable to satisfy the finest fancy. The last two productions of Mr. Schmitz are the *America*, with white ground, striped and splashed with crimson, and *River*, deep scarlet, shaded with crimson and maroon. Florists now find the Dahlia again becoming one of the most popular of garden flowers, and the above now in the possession of Mr. Dreer, of Philadelphia, are among the latest novelties.



Schmitz's New Seedling Dahlias America and River.

Wisconsin State Horticultural Society Exhibition.

WITHOUT very great anticipations for a fine show at our annual exhibition, we went forth to duty. We were constantly reminded that this had been a precarious season,—the “oldest inhabitant” never saw any thing like it. Fruit had prematurely ripened; early fall fruit was all gone, or fast decaying, and even many early winter sorts showed signs of immature ripening. Grapes were nearly gone—pears ditto. Plums a very light crop, so that the basis for building a very large expectation was poor. But in this we were happily disappointed. Fruits came in early and in large quantities, so that before the time for opening the exhibition, the room was all taken, and nearly 2,000 plates of fruit were on the tables. I cannot name the exhibitors, but the competition was very lively. A marked feature here was the Society exhibition, viz.: Waukesha County and the Milton Farmer’s Club, both ambitious for the fifty dollar premium. The exhibition by county or local societies is provocative of much good, and results in bringing out the influence and interest of a much larger class as exhibitors than it otherwise would. Another marked feature of this show was the exhibition of new fruits. G. P. Peffer showed a chance seedling crab, which had many points of excellence, and I think will make its mark and be heard from hereafter with interest. The Pewaukee, also shown and originated with Mr. Peffer, and recently described in THE HORTICULTURIST, surpassed the expectations of its friends, being about one-third larger this year than ever before, and in every other respect equal to the past. The Janesville grape (also figured in your Journal) was much better than we have ever seen it before. The vine is growing in favor every year, proving well adapted to our changeable climate—hardy—and the fruit much the best as here exhibited, we have ever seen. The Worden grape was also riper than last year, showing its character to better advantage, and cannot be thought the same as the Concord, as was the case last year.

There was also on exhibition an ever-bearing raspberry, an accidental seedling, from Jefferson county, where it fruited for a number of years. The bushes on exhibition were well filled with fruit, similar in appearance to the Doolittle, claimed to be as prolific as any raspberry, not surpassed in quality or size, perfectly hardy, rapid and vigorous grower. “The last crop begins to ripen last of August or first of September, and continues to blossom and ripen fruit up to freezing weather.”

The exhibition of both fruit and flowers was almost entirely by professional growers; the amateurs seem to have forgotten that they had a chance.

But the fruits were by no means the important feature of this show, though the grapes from Alexander Mitchell, from good sized bunches to very large, weighing over seven pounds to the bunch, did take their full share of all eyes; still the Florists filled an important niche in this hall.

Milwaukee Gardens.

Milwaukee is somewhat noted for its Florists, having some fine private residences with green houses attached, but its market gardeners and plant houses are of no mean proportions. As prominent as any here, are Whitnell and Ellis, who have nine houses mostly for cut flowers, and if the sample they bestowed upon your humble servant is a representative of their labors, the city of their adoption may be proud they are there. Then there are Dunlop and Middlemus, Thomson, Heisler, and others, all doing a thrifty and well regulated business, showing that though we are “out West,” and this in a city

scarcely out of its swaddling clothes, our better natures were not all left in New England hills, and "we," the "people," do think of something else than money. Think of it! you at the East, who suppose Wisconsin is a wilderness, inhabited by Indians and wild men, that here in Milwaukee we have a city, scarce thirty years of age, equaling in business many towns on the Atlantic coast of three times its size, a century or two old; that during this short space of time it has been reclaimed from the Indian tribes, and which still shows the landmarks of Jernean, the then trader of the West. And here it is that now upon one of the prominent streets of the city, high, and overlooking a greater portion of the town, upon less than an acre of land, there is a large mansion for the family, and 20,000 square feet of glass for the accommodation of the conservatory—cut flowers, roses, Orchidean grapes, peaches, &c.; such in brief is the place of Alexander Mitchell, of Milwaukee.

During our visit at the State Exhibition, I accepted an invitation to visit these grounds, and a treat it was; pen cannot do justice to the pleasing emotions one has in walking among the choice and rare plants here found. The gardener, Mr. Pollard, assured me that "many of his choicest and rare plants, to the amount of three to four thousand dollars worth, were on the fair grounds;" but enough was left for our purpose. Passing through the hall of the dwelling house, we enter the conservatory, now full of plants. This is 100 feet long, with a serpentine walk passing the whole length. Here we have Azaleas, century plant twenty years old, Date Palms, Auracarias and Colocasia odorata, its body nearly ten inches in diameter, with its enormous leaf, measuring about sixteen square feet, said to be from Cuba; Camellias seem to be at home; but without mentioning each plant or species, we cannot refrain from noticing the very excellent use to which the common Abutilons had been used. We here find it trained upon the back wall and densely covered with bloom; a more pleasing effect we seldom see. In the centre of this room, and yet not in the way, *for the walk gets out of its way*, is a fountain; the fine, beautiful spray came jetting forth from shelving rocks, quickly filling some large imitation shells, cut from marble, these then dripping from their fullness, add their mite to beautify the scene.

A practical point here is that of the walk. Its serpentine form gives a pleasing effect, and standing at one end of the house the look through is broken, as it is partially at any point of the house. Walk is formed by first excavation, then boards are laid flatways in the bottom, then brick, on this groit, and one-half inch cement, which is finally sanded with lake-shore sand, using irregular stones for the edging, all combining to give it a lake-shore appearance, firm, tidy and good. Passing from this room we enter the green house, seventy-five feet long, stocked with tender plants. Prying around, for we like to find practical points, we espied back of the flower stage, everything tidy and neat, as a well kept kitchen as compared to the best room of the house. And instead of the usual dirt and rubbish, broken pots, &c., attendant upon similar places, I found some well adjusted mushroom boxes. A walk paved the way, and here we are under the stage, and a tidy place it is. The mushroom beds are about sixty feet long, divided into three or four compartments to obtain a succession of mushrooms. A bed is productive five or six weeks; so that by making up a bed or section at these regular intervals, a succession of these esculents, so highly prized by epicureans, is kept up the entire season. Mr. Pollard explained the whole manner of production, and constant care required to regulate the

heat from sixty to seventy degrees, how it is communicated through small pipes in the boxes, the care necessary in the construction of boxes, circulation of air around them to assist in maintaining an even temperature, compost used, &c.; but it is unnecessary here to allude to them in detail, and pass to the tropical house, fifty feet long, filled with the choicest plants from tropical countries. Bananas are here fruiting, apparently quite at home. Water jets forth in all parts of this house from numerous little rockeries. Here we find a beautiful hollow cone-shaped rockery, the outside supporting choice plants, but within a beautiful constant dripping was going on; this was lined or rather sealed with the most brilliant shells. From all parts of this house are rustic hanging baskets with plants thrifty and fine.

We next enter the grapery where he "has grown a half ton per year," of such as are on exhibition. We partook of such as was left, and passed to the rose house for winter bloom, fifty by twenty feet, and thence to the Peach, Apricot and Nectarine rooms, 100 feet long. The fruit was all gone, but here are trees nine years old, ten feet high, and some still wider top, in pots sixteen inches square, and more thrifty and healthy trees I never saw. The average crop is 2,000 to 2,500 specimens from twelve trees. Passing through, and we are once more in the open yard. The clear, beautiful sky is our cover, a mantle of green our footstool, dotted all over with masses of choice roses, Verbenas, Geraniums and Coleuses, a few weeping trees, old native oaks, and a fine majestic golden willow. We have been thus particular, not that we think this place cannot be bettered, but in hopes to induce others of like means to go and do likewise, and so shall your children call you blessed.

O. S. WILLEY.

Rogers' Hybrids in Iowa.

HAVE set over 40 varieties of grapes in my garden and among them 10 different numbers of the above Hybrids. The latter very pleasantly disappointed me in their behavior during the summer, which in the West has been so exceedingly trying to the foliage of most kinds. Not only did they pass through the drouth as well as the Concords, growing without interruption through the entire season, but they ripened up their wood fully as well. The "Wilder" seems to be the most vigorous, though not a great ways ahead of the Salem. If the latter only comes out safely next spring, I see no reason why it may not be safely placed alongside the Concord and Delaware as one of the leading grapes. A few of us here, having heard so much of this kind, determined to try a box of the fruit this fall, and so, sent on to Messrs. J. H. Babcock & Co., of Lockport, N. Y., who claim to be "Headquarters" for this variety. The clusters were not so large as we expected; but the size of the berries and *most excellent quality* of the fruit made up for all other deficiencies. For a market grape, I should think nothing would equal it, for its appearance is magnificent, and flavor not much below the Delaware.

Of the many vines which will be set in our State next spring, I think a larger proportion of these Hybrids will be selected than ever before.

Cedar Rapids, Iowa.

W. J. ABERNETHY.

A Selection of Hardy Shrubs.

AS the season will soon be at hand when most sorts of hardy trees and shrubs can be transplanted, we give a selection of twenty-five species and varieties as a guide to such of our readers as may desire to beautify the surroundings of their homes. A few of them are comparatively well known, but most of them are of recent introduction, none of them are coarse-growing or of uncivilized appearance, and all are hardy as far north as Albany, at least.

After planting them a mulching two or three inches thick of salt hay or long stable litter should be spread over the soil for two or three feet around each plant, according to its size, and allowed to remain the succeeding summer.

Amygdalus pumilla, fl. pl.—the Double-flowering Almond. This plant is especially desirable on account of its early and profuse blooming. It grows about thirty inches high, and spreads somewhat. There is also a double white variety.

Kerria japonica, fol. var.—A variegated-leaved variety of the well-known *Cochrorus*. It is of recent introduction from Japan. The foliage is edged with white; the plant is a slender grower, not being more than two feet high, and spreads freely, causing the plant to assume a tufted appearance.

Calycanthus floridus—Allspice Flower, or Sweet-scented Shrub. This is a well-known plant, yet it is not seen nearly as often as it should be. This species is the best, as it is very fragrant, and not as strong a grower as some of the others.

Ribes gordoni, a beautiful hybrid variety of the Missouri Currant, having large racemes of fragrant red and yellow flowers. It blooms very early in the spring.

Deutzia gracilis is a dwarf-growing species introduced a few years ago from Japan, and much grown as a green-house plant, although it is perfectly hardy. It produces a profusion of pure white flowers, and grows about two feet high.

D. scabra is a stronger-growing species, growing four or five feet high, and bearing a profusion of pure white flowers.

D. crenata, fl. pl., is one of the finest shrubs in cultivation. The flowers are double, white on the inside, and red on the outside. It is a most profuse bloomer, and requires plenty of room, as it is a strong-grower—when well established attaining a height of over six feet.

Forsythia viridissima, a well-known shrub, whose bright, deep golden-yellow flowers appear with the first unfolding of its leaves. Of all the early-blooming shrubs it is the finest and most desirable. Two other species have been recently introduced, but neither of them is equal to this species.

Exochordia grandiflora, a most beautiful shrub, growing about six feet high, blooming in May. The flowers, which individually are about an inch in diameter, are white with a green centre, and are produced in long, loose panicles. Unfortunately this elegant shrub is very difficult to propagate, and is therefore not readily to be had except of our principal nurserymen. It should be found in every garden.

Hydrangea quercifolia, the Oak-leaved Hydrangea, has strongly-marked handsome foliage, and produces large panicles of white flowers during the month of July. It makes a handsome specimen plant for a lawn.

Hydrangea deutziafolia, or *H. paniculata grandiflora*, is a species of recent introduction from Japan, with leaves resembling those of some species of Deutzias, and during August

bearing immense panicles of pure white flowers, which afterwards change to pink, and finally to a purplish-brown color. It is one of the most valuable additions to our list of shrubs that has been made for many years.

Syringa persica, or Persian Lilac, is of a more delicate, twiggy growth than the common lilac, and produces larger heads of flowers of irregular shape, and is more suitable for small gardens. There is also a white variety that is very desirable, and is of still dwarfer habit. Both should be in every garden.

Magnolia purpurea, or Chinese Purple Magnolia, is an elegant shrub with bright glossy foliage and large, purple, tulip-shaped flowers. It is the better for being strawed up during the winter north of New York city, until it has attained some age, and the wood has become hard.

Prunus sinensis, fl. pl., or Double-flowering Chinese Plum, resembles the Double-flowering Almond somewhat, but is of stronger growth. It is a lovely, ever-blooming shrub with a profusion of snow-white flowers.

Cydonia japonica, or Scarlet-flowered Japan Quince, is a well-known early-blooming shrub, producing a profusion of deep scarlet flowers. It is indispensable in every collection.

Spiraea prunifolia, fl. pl., *S. reevesii*, fl. pl., and *S. callosa*, should be in every shrubbery. The first two have pure white flowers, and the third, bright pink flowers in large flat corymbs. The first also makes a beautiful screen hedge, being of upright growth and throwing up its shoots thickly from the bottom, and bears clipping well.

Philadelphus inodorus, a species of what is generally known as the Syringa, or Mock-orange. This species is of more delicate growth than any of the others, and bears its large pure white flowers in threes and fours along the somewhat slender drooping branches, giving them the appearance of garlands.

Viburnum plicatum is a species of Guelder-rose, or Snow-ball, introduced some years ago from Japan; it is a robust growing shrub, with strongly-marked foliage, somewhat horizontally; these produce at each bud a globular head of pure white flowers, which are so thickly set upon the plant as almost to hide the foliage. It is a very beautiful shrub.

Weigela rosea is a well-established favorite, but not seen as often as it should be, for nothing can exceed its lovely apple blossom-colored flowers intermixed with its lively green foliage. There is a variegated-leaved variety which has lighter-colored flowers; it is one of the best variegated-leaved shrubs we have, retaining its variegation through the heat of summer, and at the same time being free from that sickly appearance which many such plants have. Another variety has lately been introduced under the name of *W. nivea*, which produces pure white flowers; it is very beautiful and useful in bouquets. It must not be confounded with another variety known as *W. alba*, the blossoms of which, as they become old, change to pale rose-color.

Stuartia virginica and *S. pentagynia* are highly ornamental shrubs, but somewhat scarce in the nurseries. They grow from five to six or more feet high, blooming from July to September. The first has pure white flowers, with bright purple stamens; the other has cream-colored flowers. The flowers are very large, from two and a half to three inches in diameter, and very much resembling those of the single White Camellia.

The above collection of twenty-five deciduous flowering shrubs comprise the *creme de la creme* of the catalogues of our leading nurserymen, and we feel assured that such of our readers as may obtain them will be well satisfied with them.—*Harpers' Bazaar.*

Dishonest Tree Agents.

THE following article is communicated to the *Massachusetts Ploughman*, by a correspondent who is evidently posted in the secrets of the Nursery Trade. It contains some facts of a startling nature, enough to alarm all fruit-growers throughout the country. We are very glad to see the swindle exposed, and trust the community at large will hereafter give tree agents a wide berth, save only when they are endorsed with written authority of their employment by responsible Nurseries. We believe newspaper readers will be better served by reading and patronizing those who advertise and are well known, than to swallow the assurances of some glib-tongued but unscrupulous tree swindler :

"In a recent visit to the city of Rochester, the great centre of the nursery business, we gained some information as to the manner in which this great business was conducted, and which we thought would be valuable to your readers.

"We were surprised and somewhat astonished to learn that probably nearly three-fourths of the nursery stock sold throughout the United States, is sold by personal solicitation of agents or dealers, and a large number of these dealers are irresponsible and feel their mission is ended when they have received an order, delivered the trees, and got their pay. And so it is on their part, but the customer would have to wait several years before he would know if he had been swindled, or not.

"There are many honorable and reliable men engaged in this business, and it is astonishing there are so many well informed persons who will allow themselves to be swindled by irresponsible dealers, when the remedy is in their own hands, by ordering directly from some well known nursery firm. These irresponsible dealers can and do obtain catalogues from some responsible nurseries, and travel to solicit orders, and showing their catalogue lead the purchaser to believe they are obtaining their trees from the firm they are supposed to represent. As a general thing they are selling from Rochester Nurseries, when there are over twenty different nurseries in and around Rochester.

"We will cite an example: a dealer obtains a catalogue from Genesee Valley, Mt. Hope, Commercial or Monroe County Nurseries, and any of these catalogues can be had by asking or writing for them, and he represents he is going to canvass for the sale of trees, and would like to purchase his wholesale bill of them when he has obtained his orders. The catalogues are sent. The man takes his retail orders, but when he comes to purchase his bill, he might not go near the party whose catalogue he sold from, but go elsewhere and buy a cheaper or inferior article and regardless of the trees being true to name.

"For instance, a dealer would sell from some responsible Nurseryman's catalogue, and purchase his stock from some other equally reliable Nurseryman. His sale, amongst other things, would in the aggregate amount to 5,000 Apple trees; 1,000 of them to be Baldwin, and the Nurseryman said he could furnish but 500 Baldwin, but could give some other good variety. Well, do so! Some kind you have plenty of, a good grower that looks like Baldwin.

"The Nurseryman puts in 500 Talman Sweet and labels them so. But when the dealer comes to Mr. Smith's order or some other man, for 100 Baldwin, he perhaps may give him fifty Baldwin and fifty Talman Sweet, but he removes the name from the Tallman Sweet, and puts all in for Baldwin, and the customer pays for his trees, and does

not know he has been swindled until he finds his Baldwins, as he supposed, are bearing sweet apples. He then remembers the firm, or the catalogue he bought from, and blames them for furnishing trees, which they knew nothing of, or the purchaser or agent either. We were informed that many sales had been made of the Russian crab, and the variety known as such, Tetoffsky, a valuable, hardy, Summer Russian Apple (not a crab however) not yet being grown sufficient to supply the demand. Other varieties were substituted for the above, by these dealers, and in some instances three or four different varieties for one; the Duchess of Oldenburg, a valuable hardy Autumn Russian Apple (but not a crab), the Transcendent Crab, Hyslop and Soulard Crab all have been sold for the above.

"A responsible nurseryman will not fill his customer's order unless he has all the varieties ordered, but leave out such as he cannot supply, unless his permission was obtained to substitute. We heard of an instance of an agent's sale of 10,000 trees, apples, pears, peaches, cherries, plums, etc. The nurseryman told him he could furnish the trees, but not all the varieties. He took the order, but substituted some of the varieties. The agent went into a shop or room and wrote off 10,000 labels, one to each tree, direct from his book, and where lady apple was called for, the greening apple tree bore the name of the lady apple.

"Again, there are but few that know the great difference there is in the growth of different varieties of trees. A Baldwin at four years is as large or larger than a Spitzenberg at six or more years, and a Baldwin is of straight upright growth, while the Greening is very crooked. Suppose the agent or dealer had orders for a quantity of Spitzenberg, Swaar, Newtown Pippin, Early Joe, or other excellent varieties, and upon seeing the trees he finds them so much smaller and poorer-looking than other strong-growing varieties, he would say those trees would not deliver well, would lose money on them, and would prefer stronger and straighter trees, which would be furnished and substituted by him, for these weaker growing sorts; whereas the upright nurseryman would decline to furnish these sorts genuine, unless the purchaser was informed of the difference of the quality of trees, or allowed the privilege of substitution. This is greatly the fault of the purchaser, for they prefer the timber and growth and size of trees to getting genuine varieties.

"If persons want varieties of fruits or other articles genuine and true to name, they should go direct to some responsible nursery, and there are some in and around Rochester, and then, if any mistake occurs, they will rectify it. In some of these firms of long standing, they have many persons employed who can generally tell by the eye from their long experience whether a tree is genuine or not, where the customer could not distinguish any difference."

Bedding Pansies.

THOSE who have never seen Pansies massed, have no idea of their great beauty. They are thorough wet weather plants, *i. e.*, they are not destroyed by wind or rain, as most bedding plants are; and not only that, but they are so easily grown. We planted last season about 7,000 different violas. One border, about 400 yards long, and 24 feet wide, planted with pansies and cerastiums, and having a single row of pyramidal-shaped zonale geraniums in pots, at intervals of ten feet, was the admiration of every one who saw it.—*Cor. Gard. Magazine.*

The Croton Grape.

LAST summer, in an article on grapes, I expressed an opinion on the Croton grape, and styled it a pure blooded Foreigner. After more mature growth I was convinced that I was in error, which I deem a duty to retract, lest it might cause distrust in the variety.

It is a hybrid, and one that has ripened its wood perfectly; and now, after the mercury was down to 14° below zero, find it unharmed, although in an exposed place.

The fruit of Croton and Senasqua I have not seen, but the vines certainly promise health and hardiness.

I have them growing on the rich low land, as well as at an elevation of three hundred feet above the river, and so near, that a stone can be thrown from the cliff into the water. We have many new ones, which may fruit the coming year, that will be reported on.

Bluffton, Mo.

S. MILLER.

The President Wilder Strawberry.

EDITOR HORTICULTURIST: In your Editorial Notes for January, you speak of the native strawberry bearing the above name as only a moderate grower in the West; while the foreign variety of the same name is large, showy, of high quality, and very firm. I have no knowledge of the foreign kind; but my experience and observation with the native President Wilder, are directly at variance with the above statement. I set a few plants in the fall of 1869, also a few more in the spring of 1870. They occupy three different positions in my garden—one in clay, one in sandy soil, and the other in black loam. I think I did not lose a plant of those set out; and although the past season has been one of unusual heat and drouth, I must say I never grew any variety of strawberry which was more perfectly free from sun-burn or "dying out," than the President Wilder. Indeed, its habit of growth has been, so far, all I could desire. I had a few berries, the flavor of which was excellent, having a good deal of the character of La Constante. I noticed particularly the bright, lively color, fine size, and great firmness of the berries, and formed the opinion that they would bear carriage fully as well as Jucunda, or even Wilson. Should it prove, upon trial, to be sufficiently productive, I venture to predict for this variety great popularity and real value; worthy of the honored name it bears. I will add that I have taken some pains to inquire of my brother horticulturists of Ohio, both north and south, as to the performance of the President Wilder, and, with a single exception, their experience accorded perfectly with my own.

By the way, I notice "Porte Crayon" asks a remedy for "certain animalculæ" which seem to be increasing and becoming more destructive among his strawberries. As I suppose he couldn't think of using powder and shot in this case, I venture to suggest that he treat them as we should the other "birdies"—bless their hearts by planting enough for himself and them too.

GEO. W. CAMPBELL,

Delaware, Ohio.

Notes on Pears in Maryland—Our Most Desirable Sorts.

In your notes on the pear, Mr. Williams, in the October number of THE HORTICULTURIST, you ask pear culturists for the names of the pears which proved to be the best and most remunerative to the planter, as well as the methods of cultivation resorted to, to obtain the best results. As I come under the head of pear culturists, I will try to detail our experience, and the results, with the names and descriptions of the sorts which prove the best for profitable planting, so that any one who wishes to know our paying market sorts can do so.

The soil in which the orchard is planted, is a clay loam, the clayey nature being rather a predominant feature, although of not so hard or stiff a texture as to materially interfere with the cultivation. It lies rather level, but most parts have a gradual descent, giving it a natural drainage. The trees in that part of the orchard which had no drainage, either natural or artificial, did only middling well for some time, owing to an excess of moisture; but, since we thoroughly drained the whole piece, the trees have grown surprisingly, producing good crops and thoroughly ripening a large amount of wood annually. So much for drainage. The trees now present a really fine appearance, rivalling almost all orchards for several miles around, the good growth and productiveness of the trees being due to careful attention, thorough and regular cultivation, judicious pruning, etc.

The trees were planted in the ordinary way, by stirring the ground deeply with a heavy, two-horse plow, harrowing properly, digging good sized holes, planting carefully, and using extra care to have the soil made firm around the trees, the latter a very important point.

In reference to the cultivation: We plowed the orchard deeply every spring, and then planted the different vegetables, such as potatoes, tomatoes, peas, beans and the different kinds of roots, in the orchard among the trees, manuring as heavily, and cultivating as deeply and thoroughly as if the vegetables were planted in a separate piece. And we attribute, in a great measure, the success of our plantation to care in these particulars.

The pruning was not done by any set rule; but we were guided in such matters by common sense; for, as almost every different variety of our very long list of pears has an independent growth or shape of its own, two varieties very seldom being alike, we tried to give each one its own natural shape, as near as we could do so without impairing the growth, productiveness or shape of the tree. Our idea was to have a moderately full and compactly formed head, giving the sun and air free access to the middle and through the tree.

Of varieties we have many; but I only intend to give those which, after a good trial, have proved a success, reserving my opinion on the others until we have seen their fruiting and tasted their fruit for two or three seasons, at least, as I consider that length of time necessary to return a true verdict on the merits or demerits of the variety or varieties under consideration.

The varieties which succeeded well with us this year were, Bartlett, which does well almost everywhere, Flemish Beauty, Duchess D'Angouleme, Osborne, Belle Lucrative, Seckel, Lawrence, etc. I might mention a few others, but will reserve my opinion upon them until I see how they carry themselves another year.

Chesapeake City, Md.

D. Z. EVANS, JR.

How to Raise Asparagus.

FOR more than twenty years I have been accustomed to hear about the same class of questions asked by consumers, why it was that Asparagus, a vegetable that was always in good demand, and usually commanding high prices, was not more generally cultivated by farmers, as well as gardeners, situated favorably, and accessible to good markets?

During these twenty years I have been engaged, more or less each year, in growing vegetables for market, and at different times have known each and every kind of vegetable grown to any extent for market to be a "drug," with the single exception of asparagus, which so far has always been in good demand, and that too at paying prices.

There are few persons who have been engaged on an extensive scale in "trucking" who have not been compelled to sell, in "bad seasons," a part or the whole of a crop for less money than it cost to produce it. This would apply to the whole list of vegetables, leaving out asparagus, which during such dull seasons and poor markets is generally made use of by those who grow it to work off other kinds of vegetables, that is, in case a grocer wants two or more dozen of asparagus, to get it he would be obliged to buy a portion of whatever the grower had on his wagon at the time. In this way the gardener who had an abundance of asparagus would not lose so much in the sale of his crops in dull seasons as he who was not so situated.

Within the past few years more attention has been given to the culture of asparagus, and it is not rare now to find fields of from two to seven acres in different sections devoted to asparagus for New York and other large markets. Some of these new plantations have already begun to yield, and still prices are not in the least affected, but on the contrary have advanced. The past season growers estimated the yield was above an average one, and still prices ranged higher than they have for many years. This condition of matters is quite encouraging for those who have young beds, or are about to embark in this branch of gardening with a view to profit.

To be successful in the culture of asparagus for market, there are a few essential points to be fully considered and carried out before any hopes of success can be entertained.

The first is a selection of the most suitable soil and situation. The second, a thorough mechanical preparation of the soil before planting, and third, heavy manuring.

The location of the bed is important, from the fact that when asparagus first comes into market, it sells briskly at from \$5 to \$8 per dozen bunches, and frequently as high as \$12 per dozen, if the spears are large and the bunches carefully made. From these prices it gradually falls, as the supply increases, until it reaches \$2 per dozen, and very seldom goes below this price, although at \$1.50 per dozen asparagus will pay a handsome profit.

When the soil has only been indifferently prepared, and poorly manured, earliness of the crop and large sized spears cannot be expected, and as a matter of course, under such circumstances a large share of what would be the profits are not realized by the producer.

Sowing the Seed.

Asparagus seed should be sowed in the Spring, in a bed made deep, mellow and rich. When the surface of such a bed is raked over, removing any stones or other obstructions,

then shallow drills should be opened about one inch deep, and a foot apart. The seed is strewn thinly by hand in these drills, and then covered by raking the bed with wooden rakes, drawing them in the direction of the drills. Fresh seed will sprout in two weeks from the time of sowing, in favorable weather. Seed older than one year will take longer to germinate, and if more than three years old, is unsafe to sow with any certainty of its ever coming up.

It is a good plan to scatter some radish seed in the drills at the time of sowing the asparagus seed. The radish will germinate and come up in a few days from the date of sowing, marking the lines of the rows. This will give a chance to run a scuffle hoe between the rows, destroying any weeds that may appear, and keeping the surface loose until the asparagus plants are well up. Then the spaces between the rows should be disturbed frequently and no weeds or grass allowed to grow. Under favorable circumstances well grown one year old plants will be strong enough for transplanting in the permanent bed. In case the plants are weak, it is better to let them remain in the seed bed another season before making the bed. Plants older than two years should not be planted, for more than likely they will fail to give satisfactory results. Those who only want a few hundred plants to make a family bed, will find it cheaper to buy them from some responsible person than to raise them from the seed. One pound of seed will sow a bed 20 by 100 feet, and if the seed is fresh will give about 15,000 plants.

Preparing the Ground.

When properly made, an asparagus bed will produce paying crops for a quarter of a century, under good annual treatment. There should be no short-sighted economy practiced in putting the ground in order. If the ground selected is naturally wet, or likely to become so, then by all means have it thoroughly underdrained. Asparagus can only be grown to the highest point of profit on soil that is free from stagnant water, thoroughly pulverized to a depth of at least twenty inches, and then heavily manured. There will be more satisfaction in planting only a quarter of an acre on this thorough scale, than in planting an acre under indifferent preparation and poor manuring. The ground should be thoroughly plowed and subsoiled both ways, and then plenty of well rotted yard manure plowed under. The more manure that is applied, the more productive the yield will be when the plants are fairly established. Barn yard manure, composted with the *salt and lime mixture*, will be found an excellent manure for asparagus.

Planting.

It has long been a mooted question whether the Fall or Spring was the best time to plant an asparagus bed. In most cases more will depend on the condition and tilth of the soil than the time the roots are planted. Where the soil is heavy and retentive of moisture, and long and severe Winters, undoubtedly the Spring is the best time. But on sandy or clay loam, and as far south as Delaware or Virginia, Fall planting will do just as well, and often better, than Spring planting under similar circumstances. When the ground is prepared by frequent plowings and subsoiling for field culture, or the garden spot thoroughly trenched with the spade, then the furrows should be run but three inches deep, and three feet apart each way. A single plant is set at each intersection, being careful that every root of the plant is stretched out to its full length, and then covered with not more than four inches of earth, if planted in the Fall, and only about two inches when set in the Spring. This light covering at first, or until the plants

have started to grow, is the safest plan to follow. When the young shoots are three or four inches above the surface, then, by running a cultivator between the rows, the loose earth will fall toward the row of plants, adding a couple or more inches of covering above the crowns of the plants—making in all from four to five inches in depth.

In garden culture, this second covering may be drawn over the rows by the hand hoe, any time during the Summer. A cultivator should be kept going between the rows often enough to prevent the growth of weeds in the bed. This will be found the cheapest method of culture. When planted in the Fall, the rows should have a light mulch of barn-yard manure put on in November, and in the Spring, following this mulch, with an additional quantity of manure, either barn-yard, fish, guano, bone dust, or superphosphate, should be applied, and all turned under early in April, or as soon as the ground is dry enough to work.

Annual dressings of common salt will improve the quality and increase the size of asparagus. There need be no apprehension of danger from the application of salt to asparagus. I have frequently put on as much as two inches in thickness, on different spots, on an asparagus bed, and then the young shoots came through this coating of salt without apparent injury. A dressing of twenty-five or thirty bushels of salt to the acre on an asparagus bed every second year, will be quite enough, in connection with the annual coating of barn-yard, a compost to be applied in the Fall or Spring, as circumstances may dictate.

No asparagus should be cut from the bed the first or second year. Some growers carry this so far as not to cut any until the fourth year from the time of planting. In case the plants have grown vigorously, a third of a crop may be cut without at all injuring the plantation the third year. The amount taken off the third year depends altogether on the condition and vigor of the plants. In case they are weak, it would be poor policy to weaken them still more by cutting for market or home consumption too soon. In the Fall of the first year it is a good way to throw a shallow furrow from either side toward the rows, and then rounding them off with a hoe or a rake. This slightly elevated ridge will dry out sooner in the Spring than a flat surface, and asparagus treated in this way, will often make a difference in earliness of five or six days, which is an important item to those who grow it for market.

Early asparagus always brings higher prices than what comes in late in the season, and, therefore, every advantage by locating character of soil and treatment, should be taken into consideration by those who are about its culture for profit..

Varieties.

There were only two varieties generally cultivated for market purposes until quite recently. These were the green and purple-topped. The identity of these two were frequently doubted by intelligent gardeners, and the size and difference in color attributed to location, soil, and heavy or light manuring. Two years ago, S. B. Conover, of New York, introduced a variety under the name of "Conover's Colossal." For this variety Mr. Conover claimed extraordinary size of spears, and that it was equal in quality and productiveness to those varieties that were in general culture for market purposes. This claim had to be tested by practical growers before discarding old and tried for new and untried kinds. Many doubted that it was any other than what was cultivated on Long Island, and other asparagus producing sections. I have watched the "Colossal"

closely for two years, and firmly believe it is the best variety of asparagus that we have for field or garden culture. The spears will average twice the size of the common kinds, and the "Colossal" is equal, in my estimation, in quality and productiveness to any variety that I am familiar with. Plants at one year old will average as large as plants two years old grown on the same soil and under the same treatment, of the green or purple. In another article on this subject I will have something to say on the profits of asparagus culture.—*By P. T. Quinn, in N. Y. Tribune.*

The Croton Again.

WHILE enjoying the leisure conferred by a rainy day, I have been looking over the back numbers of THE HORTICULTURIST and find much to instruct, as well as many subjects of interest. Observing that several of the numbers have contained remarks upon Underhill's new grapes, especially the Croton; I cannot refrain from adding my testimony and experience, of as little value as it may be.

My first acquaintance with the Croton was at the Pomological Exhibition in Philadelphia, in September, 1869. Like other grape growers, I had been longing for a really fine and perfectly hardy white grape, one that in taste and appearance need not hide itself from its foreign relations. I did not see that the Martha possessed the requisite qualifications by far, but when I beheld the Croton in the delicious bunch and berry, and tasted the fruit, my hopes were raised to the highest pitch, and I succeeded in the following Spring (1870) of procuring from Mr. Underhill a fine one year old vine, as also one each of the Senasqua and Large White.

Being anxious to give them a fair vineyard test only, I planted them in a row of a Salem vineyard, then being set out, together with a couple of Walter plants furnished by Ferris & Caywood, with the fruit of which I had also been much pleased. The entire vineyard was planted on a medium quality, pebbly loam, without any manure, and all the vines have received precisely the same treatment.

The Croton has made a growth of about four feet, making in that space 36 good and well ripened buds, being about equal in length of cane to the average of the Salem vines, but of much shorter joints. I do not think I am extravagant when I say that those three vines of Mr. Underhill's were this last year, the healthiest vines in a vineyard of twenty-five acres, the larger part being Concords in full bearing; but representing almost all of the popular varieties of any worth. The closest daily scrutiny from the time the bud started until the wood matured, failed to discover the slightest sign of mildew, leaf blight or any other disease; while, owing to a very unfavorable and wet June, there was scarcely another vine in the whole vineyard that was not more or less affected by mildew. The Walter, alongside, was completely defoliated, having made through the whole season but about 8 inches of wood; one vine dying back to the ground entirely, and the other vine ripening only the two lower buds. The Salem and Wilder vines were considerably affected, and the Goethe but slightly. July was very hot and dry, ripening the wood up very rapidly and thus curtailing the growth.

The Large White is evidently a ranker grower, with a coarser leaf than either the Croton and Senasqua, which are very similar in their growth. Of the fruit of the Large White I know nothing; but, suppose it must be something promising but not as well tested as the others.

Should the Croton make a good wine (and I understand that the must has tested 100 on the scale), I think all grape growers and grape eaters owe a hearty vote of thanks to Mr. Underhill for the success that has crowned his efforts in producing a White Grape of the finest quality.

From the experience of the past year, I believe that a grape, to become a successful candidate for vineyard cultivation, must be of attractive appearance, good eating quality, and last but not least, a good wine grape; for the past season has fully convinced me that all grape growers of any extent must become wine makers or sell their fruit to wine makers, as the markets generally were completely broken down and glutted. We will then become the most active agents for the abolition of those vile, poisonous drinks, that now bring so much drunkenness and consequent misery upon our people, and we can put within the reach of all, what so few have ever tasted, a pure, unadulterated and innoxious drink, one that maketh the heart glad without corrupting and degrading the man.

For general cultivation the appearance and size of the bunch must be attractive; as I believe the tendency will be for consumers to buy by the pound weighed out, bunch by bunch, and the Croton will certainly answer to this call, as no one who has seen the fruit will doubt.

I do not think the hardiness of the vine can be doubted, and I shall do nothing to protect mine during the winter, and shall as certainly expect to see the last bud start in the spring as I should of any Concord vine.

BOHEMIA.

Town Point, Cecil County, Md.

New Fruits.

BY JACOB MOORE, ROCHESTER, N. Y.

I HAVE a large number of crossbred seedling grapes, some of which have fruited this year for the first time. A number of these are promising, but further trial is requisite in order to select the most valuable. Two of the best varieties I propose to name the Rochester and Golden Cluster, and I give this information to secure the names. A brief description of some of these new grapes may not prove uninteresting. There are three yellow or white grapes from seed of the Hartford crossed, separately, with Miller's Burgundy, Muscat, B. Hative, G. Chasselas. Those, from the two first named foreign parents, are large in berry and cluster, dissolving in flesh, with a rich, sugary, foreign flavor. They ripen early, and the vines are vigorous, healthy and hardy. The other variety is also large in bunch and berry, tender fleshed, with rich, spicy flavor, which, to my taste, is superior to that of the Chasselas. Seedling No. 3, from the Hartford, by Muscat Hamburg, is a black grape of medium bunch, and large, slightly oval berries. The flesh is dissolving, with a rich Muscat flavor. Ripens early. The vine is vigorous and hardy. The bunch may prove to be much larger another year, as this is the first season the vine has borne. No. 1, from the Hartford, by Bowood Muscat, is a large, long, compact bunch of large, oval berries of a light yellow color; flesh somewhat meaty, with a decided Muscat flavor; ripens late. The vine is a prodigious grower, making large, strong shoots, and thick, pubescent leaves, which mildew to some extent during the latter part of the season. The vine, however, when exposed to the winter, has proved hardy. A seedling from the Concord, by Diana Hamburg, had a small twig

of six or seven berries which were oval, black, of medium size, tender fleshed, rich and sweet. Ripened early. The vine has large, moderately pubescent leaves, and is a rampant grower. It has two arms, from each of which, several shoots have grown nearly twenty feet in length, each. A seedling from the Concord, by B. Hamburgh, bore a few berries which colored very early, but were so damaged by the birds that they could not ripen. The berries were large, and I judge, from the size of the tendril, that the cluster will be large. The tendril is merely an undeveloped cluster, and often indicates its size, according to my observation. No. 3, from the Oporto, by Black Hamburgh, is a large, shouldered bunch of medium sized berries. The flavor resembles that of the native parent, but is sweeter. Color very dark. Requires to hang a long time after coloring to ripen fully, and even then it is rather too sprightly to suit most tastes. If eaten shortly after coloring it is apt to make a hole in the tongue. The flesh is red, and juice very red, staining the hands purple and red, so as not to be washed out easily. The other varieties of the same parentage possess this quality in greater or less degree, and derived it from the Oporto, the flesh of which is purple, and the most acid of all grapes. The scriptural expression "*The blood of the grape,*" applies to them, certainly. Nos. 9 and 14 are medium, or large in cluster and berry, and much sweeter grapes than No. 3. These and other of the best sorts abound in sugar, as well as acid; they are sweet, yet sprightly, with a rich, refreshing flavor. Nearly all the varieties from the Oporto are vigorous growers, healthy and hardy.. I have noticed the fruit of several among them to rot for the last two years, and it is, doubtless, their habit. A variety may have this habit as well as any other. From the Dartmouth by the Muscat of Alexandria, I have a number of varieties which are of about the same quality as the Rogers Hybrids. The Dartmouth is a large, black native grape of the Labrusca species, originally brought from Connecticut. It is precisely of the same character as the variety Mr. Rogers raised his Hybrids from, differing only in color. Several of the seedlings from it are red grapes, one of them as large as Isabella in berry and cluster, and sweeter. Another has a medium sized bunch, and large, elongated, oval berries; flesh meaty, very sweet, with flavor of the native. The seeds resemble those of the Muscat, and the foliage has little pubescence. Two of the varieties are black grapes, with a trace of the Muscat flavor; and one of these has a thick, woolly leaf, more like that of the native parent than any other among them. Most of them are healthy, hardy vines, and vigorous growers. They afford the skeptical an additional evidence that the Rogers grapes are true Hybrids. As for myself, I have no respect for the intelligence of any man who, at this late day, denies that they are so.

I have many other new grapes, but none that I think superior to the best of those I have mentioned. The greater part of my seedlings (all are crossbred) are yet to fruit; especially those from crosses of native varieties. A portion of these will bear next year, probably. I have experimented with other fruits, also, and have two new varieties of apples this year. These were raised from seed of the N. Spy crossed with the Golden Russet. The operation of crossing was carefully performed by me, and there can be no doubt about the parentage. I mention this circumstance for the reason that it has become fashionable, lately, to claim new fruits to be Hybrids or crossbreeds, when it is not certainly known that they are so. One of these apples looks more like the R. I. Greening than either parent. It is as large as the N. Spy, yellowish, with a dull blush cheek, faintly striped. The skin is smooth, with no trace of russet, and the flavor is

tart and aromatic like the N. Spy. The tree, too, is an erect grower like that variety; but the leaves and shoots look more like the Russet. The other variety is a handsome, red striped apple, nearly as large as the N. Spy, of a deeper red color. This also, has no trace of russet except around the stem. The quality I cannot yet determine. The tree resembles the Russet in habit and appearance. Both varieties appear to be good bearers, and long keepers. I have a barrel of fruit of both together, and can test their keeping qualities.

In conclusion, it may be as well to observe that the production of new and valuable fruits, by crossbreeding, is an interesting occupation, and very profitable, also. The originator, you know, if he produces a variety of great value, can make a *fortune*. He is sure to do so. Not that the *fortune* will be *his*. Not at all! I would not be so misunderstood. The *fortune* which *he* makes is divided up among the principal nurserymen throughout the country. The originator's part of the *fortune* is the cost of producing the variety, its propagation and introduction. The latter cost—the cost of advertising, principally—the first sales, on which he must rely for compensation, may enable him to pay, possibly. In addition, the originator, we are told, has the name of a public benefactor (what a pity that such a name will supply none of the necessities of life), and the thanks (?) of the public.

Gardening for Ladies.

The Hyacinth.

THIS plant, though a native of the desert, has been domesticated for many centuries, and is aptly styled the "*Domestic Flower*" for it is closely enshrined in the hearts of all lovers of flowers. Haarlem is the great focus of bulbous cultivation, and its soil is gifted by nature with the requisites for Hyacinth culture. The surface consists of light vegetable mould, formed by the decomposition of leaves and other vegetable matter mixed with sand, and under this is a substrata of sand which acts as a drain to free the upper surface from the surplus moisture with which the heavy spring rains and melting snows of winter inundate it, often to the destruction of the roots. Florists of other countries have learned the secret of the Haarlem florists' success, and have imitated the soil, thereby producing as good results. By paying careful attention to the preparation of the soil, as good bulbs can be raised in this country as in Holland; yet, while the roots can be procured every year, on such moderate terms, as at present, it is hardly worth taking the trouble to propagate new varieties. Much patience and care is needed to raise them from seeds, and often but half a dozen good flowers are found in a thousand seedlings. At first, the single flowers were considered superior, and they are still for "Window Gardens;" but at length, a double flower was produced of such rare beauty, that it brought the whole class into universal estimation.

"*The King of Great Britain*" was sold for an incredible sum, when it first appeared.

In preparing a bed for Hyacinths, the soil should be deeply stirred, for the roots often penetrate from eight to ten inches into the earth, and unless it is mellow, their growth is checked. A location must be selected which is well drained, and protected from the

heaviest snows and drenching rains, and well sheltered from northerly winds. When the finest blossoms are desired the soil should be removed at least one foot, and the earth well stirred up; then spread a layer of three or four inches of leaf-mould, thoroughly sprinkled with sand, and fill up with compost of one-third well rotted cow-manure, and two-thirds sandy loam, well mixed together. The soil obtained under the pine needles of the forests, will make all bulbs thrive perfectly. It is usually a dark, sandy loam, excellently fitted for their culture; we have used it, and can speak from experience of its beneficial results. If the ground is too heavy, the bulbs are apt to decay. Silver sand, such as is found in nearly every kitchen for domestic uses, is also of use in planting bulbs of all kinds. When the beds are prepared, and made higher in the centre, so that the water can drain off readily, then the bulbs should be planted, and the earlier in November the better for them; but always select a dry day for the work: Plant in concentric circles, straight rows, or clusters, taking care to cover the tops of the bulbs at least four inches under the surface. A liberal top dressing of sand, will draw the sun's rays early in the season, and prevent mould or decay from attacking the bulbs.

When the ground freezes, it is well to cover the beds with four or five inches of coarse manure, straw or leaves, with slats laid over them to prevent them from blowing away; but don't cover too early in the season, else the ground mouse may make her winter nest under the soft bed.

This covering must be removed early in the spring, or as soon as the first tiny green sheath is seen. Then the soil can be slightly stirred up on the surface and pressed tightly around the bulbs, as they often crack the earth.

Bulbs are store-houses of prepared pulp. Linnaeus styles them "the hybernacle or winter-lodge of the young plants." They in every respect resemble buds except in their being produced under ground, and include the leaves and flowers in embryo, which are to be expanded into glorious bloom in the ensuing spring. By carefully cutting through the concentric coverings of a tulip bulb, longitudinally from the top to the base, and removing them cautiously, the whole cup of the next summer's tulip is disclosed. In all bulbs, the miniature flowers exist, but the individual blossoms are not so conspicuous to the naked eye, nor so easily dissected as in the tulip. A Hyacinth bed, once planted, can remain undisturbed for two or even three years; but most gardeners desire their beds for other flowers, and the bulbs are dormant from three to four months at least. The seed-pods should be gathered when the plants have flowered, as ripening the seed would partly exhaust the strength of the bulb, but the leaves prepare the pulp for maturing the bulb for another season, therefore the roots must not be lifted until they are wholly dried and withered. Take them up on a dry day and spread in the shade to harden. When quite dry separate the offsets, and put them in paper bags or boxes, keeping in a place where no moisture will reach them until another autumn, when they can be replanted.

The offsets can be planted by themselves in a dry, sunny situation; if they attempt to flower the first season, pick off the buds, for the root needs all its strength; the following spring they will flower well, and after that can be treated as *grown up* bulbs. If the beds are needed before the large bulbs are fully matured, the plants can be taken up, and laid in ridges, covering the roots with earth, but leaving the stems and leaves fully exposed to the air; thus treated, the leaves decay rapidly, and the bulbs swell to full maturity.

In the selection of bulbs, choose those that are compact, solid, and firm at the base of the root. Light colored bulbs are always white or cream colored; dark skinned ones, blue, purple, pink or crimson.

The Florists' catalogues offer us a large variety to select from, with many high-sounding names. As we have said before, the double varieties are more suitable for out-door culture; and they cover at least half of the stem with full, horizontal bells, forming a compact cone terminated at the top by one upright bell; and are fully worthy of all the labor which their cultivation demands. A bed of Hyacinths in the early spring is a glory and a joy; but in their selection we must pay due deference to their height, and plant the tallest varieties in the centre of the bed, else the whole effect will be spoiled; also to choose those that will blossom at the same time, for there are early and late bulbs; and some catalogues very properly mention not only the names, but the seasons and height of the flowers.

Double Blue, very Dark.

"Albion," late, low; a very beautiful spike of flowers. "King of Wurtemburg," early, tall, very fine. "A la Mode," early, low, a bright blue. "Pasquin," early, tall, a light blue. "Globe Terrestre," late, low, perfect bloom.

Double White.

"Sceptre d'Or," late, low, an exquisite flower. "La Virginite," early, low, very lovely. "La Tour d'Auvergne," early, tall, beautiful. "Gloria Florum," early, low, perfect bells. "Duc de Berry," late, tall, very fine.

Double Red of Various Shades.

"Lord Wellington," rose colored; early, low, of finest bloom. "Bouquet Tendre," dark crimson; early, low, very superior. "Perruque Royale," rose; late, tall, especially lovely. "Gen. Von Ziethen," deep crimson; late, low, fine. "Eclipse," dark rose; early, low, beautiful. "Honneur d'Amsterdam," bright pink; early, tall, extra. "Comtesse de la Coste," rosy pink; early, tall, very double. "Alida Catharina," dark rose; early, low, fine bloom. "Belle Marie," rich crimson; late, tall, very superior.

Double Yellow; Various Shades.

"Bouquet d'Orange," bright orange; early, low, very superior. "Jaune Supreme," fine yellow; early, tall, fine. "La Grandeur," canary yellow; late, low, new. "Louis d'Or," bright yellow; late, tall, a beautiful spike. "Pure d'Or," golden yellow; early, low, extra. "Ophir d'Or," perfect yellow; late, tall.

The single varieties are earlier, and their colorings are frequently more brilliant. They excel the double in fragrance; and can be mingled with them in beds. Among the white varieties which are most sought for are:

"Alba Maxima," pure white, of splendid spike and showy bells; tall, and late. "Grand Vainquer," pure white; extra, with great profusion of flowers, tall and late. "Hannah Moore," snowy white, very handsome; low and early. "Blanchard," extra white; tall and early. "Alba Superbissima," pure white, extra large spike; low and early. "Queen Victoria," perfect white; low and early. "Semiramis," rosy white; tall and late.

Space would fail us to enumerate the hundreds of varieties offered for our choice ; we hope that our readers will be induced to plant some of them whenever occasion requires, and we feel assured that they will be richly rewarded for both the money and time expended upon them.

“ Well they reward the toil.
The sight is pleased, the scent regaled ;
Each opening blossom freely breathes around
Its gratitude, and thanks us with its sweets.”

S. O. J.

New Flower Glasses.

THE old style of hyacinth and flower glasses, with long necks and small bases, are gradually giving place to the newer and more handsome styles of *Tyes' Patent*. The new glasses have a shorter neck, but wider mouth, and very much broader base, rendering them less liable to be overturned or broken. After they have been used for hyacinths, and the blooming time of the bulbous flower has gone by, the glasses are still of admirable use as flower stands for bouquets and stray sprigs of flowers, which can be kept fresh and sweet for many days. The glasses are either single or compound, three joined together, and are beautifully figured, of various colors—green, blue, red and purple. If placed where the light can strike them, they form a handsome window ornament for their colors alone.



The above design represents them as filled with some stray sprigs of roses and other flowers, placed there for temporary ornament. They are now in general use, and for sale by the principal florists and seed houses.

Editorial Notes.

Change in Size.

OUR readers have noticed, perhaps, a slight change in size. We found, soon after our enlargement, two years ago, that our size was then one half inch too long, and one half inch too wide for previous volumes of the series, and at the end of the year 1869, in binding, we discovered that the margin had to be trimmed down so close to make the height uniform, that it displayed the border around the reading matter in an awkward shape. As soon as our paper supply was exhausted, we determined upon a change, and have just adopted it with our January number. We have left off the old border, reduced the size to correspond with the earlier volumes of the series (from 1850 to 1860), and yet we have not curtailed our reading matter. Our readers will find, by measurement, that we give precisely as much reading matter now as last year, while the \$300 per annum formerly spent in maintaining a useless border and extra margin, we shall hereafter devote to increasing our fund of illustrations, together with a better quality of paper, and other improvements.

Pennsylvania Fruit Growers' Society.

The Annual meeting for 1871, held January 18 and 19, 1871, at Chambersburg, Pa., was an eminent success. We had the fortune to be present, and take part in the proceedings. Admirable addresses were delivered by Josiah Hoopes, the President; William Parry on Small Fruits and the Peach; Edwin Salterthwaite on Pears, and other gentlemen on important subjects. The attendance was large and the interest on the part of the citizens was displayed by the generous hospitality which they extended to all. We have not space this month to present a full report, but will print extracts from addresses in the next number.

Profitableness of Raising Pears.

At the last meeting of the Oshkosh Horticultural Society, Wis., this subject came up for discussion. Mr. Brainard remarked that his faith was very strong in its success; he thought that a man could raise a bushel of pears as easily as a bushel of apples, while they would bring in the market three times as much.

A member asked if there was any danger of overstocking the market, and the answer was given, "*Yes, if too extensively cultivated.*" From which we are to infer that even if pears can be raised as cheaply as apples, still the people would not eat them as freely, a state of circumstances we are loth to believe.

Dr. Kezertee remarked with respect to the falling from the trees, that they were not half so liable to fall as apples, while the Flemish Beauty in particular, sticks very fast to the limb.

E. Chase said that even if the more extensive cultivation of pears should result in so overstocking the market, as materially to reduce the price, they would nevertheless pay well to raise *for our own families.*

Dr. Kezertee—We may safely reckon, I think, that pears will always be worth twice as much in the market as apples, and inasmuch as with proper care, the trees will grow equally as well, their profitableness must be apparent.

A significant fact elicited from the discussion of the Society, was this, that the Bartlett cracked badly so far North, and was not considered a reliable variety, but on the other hand, indorsements beyond number were given in behalf of the Flemish Beauty. One member says, "It should be placed first on every list." Another says, "It is the only variety I care about cultivating."

And Mr. I. J. Hoile finally expresses the general sentiment of all the members with this terse opinion: "While some other variety might be planted to a limited extent, and with gratifying success, in small well sheltered gardens, I do not think that it would be safe to recommend any other variety than Flemish Beauty for general or orchard cultivation." The readers of THE HORTICULTURIST will note that the success of this variety is only for one section of the country. It would not do to plant it either in the Eastern, Middle or Southern States. We are glad to learn it is so successful in Wisconsin and other Northern latitudes.

Young Fruit Trees.

In the Spring of 1868, we transplanted a lot of trees, mostly two years old. We had eight small yearlings that did not average over a foot and a half high. All were planted with the same care, and in the same manner. They grew off the first season, and did very well—the small ones gaining perceptibly on the large ones. Last Fall they were all about the same size. Now the younger ones are decidedly the larger, and in every respect are superior trees. We have noticed the same thing repeatedly before. There is no advantage in planting even two-year old trees. You have better trees, and fruit fully as soon, by planting yearlings.—*Plantation.*

The Winter Nelis Pear.

Twenty years ago, at the recommendation of some friends, I planted thirty standard trees of the Winter Nelis, on the assurance that it would prove on trial a profitable market variety. The tree makes a long, slender, and irregular growth of wood. We waited patiently from year to year, always hoping for better results. It proved, however, a very shy bearer on our heavy clay soil, and at the expiration of sixteen years the thirty trees were grafted over with Bartletts and Beurre Clairgeau, which have given me better satisfaction. During that time those thirty trees did not produce fifty dollars worth of fruit, all told. Some seasons the Winter Nelis is quite astringent, but generally the quality of the fruit will be found first rate, and a good keeper. The tree should always find a place in the amateur, if not in the orchardist's list of varieties. Its season of ripening is from the middle of December until the middle of January. I have seldom been able to keep any specimens, even with extra care, as late as the first of February.—*N. Y. Tribune.*

The Salem Grape.

The *Oneida Circular* says: "A superb grape, the best of these seedlings that we have tested. This is the first time we have fruited this grape, and if it does as well in the future as it has this season, it will become a popular variety with us."

The same Journal says of other varieties:

Adirondack.—Ripening a part of its fruit as early as the 25th of August. It is a pretty good grape when in perfection; rather watery, and the vine a weak grower, and subject to mildew; when the leaves fall, leaving a good share of the fruit unripe on the vine, of little value for the vineyard.

Hartford Prolific.—A good early grape, bearing uniformly large crops; ripens its fruit evenly, and a little later than the above named variety.

Delaware.—Ripe this year from the 1st to the 15th of September; quality first rate, though the berries cracked badly this season, causing the loss of twenty per cent. of the crop. Nearly one-half of our vineyard is made up of this variety.

Iraella.—A good sweet grape, ripens with the Delaware, is rather tender in leaf, and if allowed to bear more than a moderate crop, the leaves fall, and the fruit becomes worthless.

Creveling.—This is a hardy grape, of good quality; vine a straggling, rampant grower; clusters loose, which renders it unsaleable in the market; ripe September 15th.

Rogers No. 4.—Not equal in quality to Salem, though a very desirable black grape, and the next best perhaps of this class; ripe from the 15th to the 20th of September.

Rogers Nos. 15 and 19, are also good varieties, and have uniformly done well with us, though the latter requires attention in thinning out, as it is liable to set more fruit than it can carry, and thus fail to ripen well; a little later than No. 4. The last three numbers are most desirable on account of their keeping qualities. In a suitable store-room they doubtless may be kept quite fresh during the winter.

Concord.—All right as usual, though in quality it was much better than ever before, owing to its being thoroughly ripe when cut. No one, I think, would refuse a dish of Concords as grown here this season. Only once before since my acquaintance with it have I tasted the Concord grape in perfection. Having plenty of earlier varieties to cut from, the Concords were allowed to hang on the vines until late in September, when they were found to be tender and palatable. Ripe this year as they usually are when gathered, about the 15th of September.

Rebecca.—A nice white grape that ripens with the Concord, and proves to be a good keeper.

Iona.—A superior grape in quality, the best perhaps of our native grapes, in districts where it can be ripened. This is the only season we have succeeded in ripening it, and even now only a portion of the crop. Were it early enough for this district, and I was confined in my choice to one variety, I should give the preference to Iona; but we are compelled to give it up.

New Seedling Grape.

We have received specimens of a new seedling grape raised in the grounds of Ellwanger & Barry, Rochester, N. Y. As the bunches had suffered in transportation, we could not figure it; likewise many of the berries had soured owing to the warm weather. A few specimens enable us to speak highly of its quality, being of a rich, sweet, juicy taste; the only fault seeming to be in the seeds, which are larger than in any native variety we know. Color, amber, and berries quite as large as the Catawba. The vine has borne for six years steadily, never failing once in bad seasons to mature well.

The Rosticer Pear.

Although this tree is very straggling in growth, having long, irregular branches, yet it is a fine little pear in quality and of superior flavor. They are finally colored, also with bright rosy cheeks, helping out their delicious, inviting appearance. Among the earliest of our autumn pears, it is welcomed by all who appreciate it and take the trouble to cultivate it. It is a vigorous grower, and the fruit grows in clusters, numbering a half dozen or more. A good, moderately moist soil and careful cultivation are all that is needed in its culture. In trimming, it is much like a grape-vine—does best if left alone. Prune off those branches unusually long, and let the rest grow. A few trees will do well for every collection, but we could not advise it for general orchard cultivation for market.

American Rural Home.

The first number of this new Journal, which takes the place of the *American Farmer*, at Rochester, N. Y., is very neat indeed. It is pleasant in looks, in contents a thoroughly social home paper. Western New York is a grand good field for supporting "Rural Home" papers, and a grander one for raising good practical men and editors.

Wisconsin State Agricultural Society.

The Report of this Society for 1869, sent us by the Secretary, Mr. J. W. Hoyt, has some very valuable papers in it. We may mention particularly the Essay by O. B. Galusha, of Illinois, on "Timber growing." And the report of F. Q. D'Aligny on the Beet and Beet Root Sugar; other papers of interest are frequent, but we esteem the above alone worth the cost of the volume.

Report, Department of Agriculture.

The Commissioner of Agriculture, in his Report for 1869, has favored the public with much the best yet issued from the department. We are pleased to see the eminently practical nature of its contents, and we have observed many facts in agricultural interest new to us, and destined to develop important industries in our country. There are many valuable statistics, and considerable information is given in the agricultural capabilities of our new States and Territories. The Commissioner in his forthcoming report could not please the popular taste better than by devoting increased space to good reliable information about our lands favorable for settlement West of the Mississippi River.

Profitable Strawberry Culture.

Mr. Knox succeeded in making his land, devoted to the Jucunda strawberry, pay from \$1,200 to \$1,500 per acre, and frequently sold fancy berries at the rate of one dollar per quart. They were done up in little fancy boxes, and also in small cases of five to ten quarts ready to send off to any address. These quart baskets often held but eighteen berries or but nine to the pint. From two and a half acres last year he realized net \$3,600. He is the only strawberry grower of our acquaintance who makes more money

from his *fruit* than the plants from the same ground. The reverse is generally the rule with nurserymen; sell all the plants possible, and if any fruit is left, sell that too—hence the display of fruit is very small, and inferior in size or quality.

If You Have Got Good Fruits, Keep Them.

The *Germantown Telegraph* says: When you have a good strawberry or raspberry which suits your soil, don't throw it aside for any new sort with a high-sounding name and a high-sounding price; but stick to it. If the new sort turns out to be a real acquisition, you can grow it if you like quite time enough to enjoy any good qualities it may possess. We know of persons who are always changing their varieties of small fruits—always experimenting—and are nearly always without a good supply. In our experience of a series of years we have found the "let-good-enough-alone" policy to be the best.

Best Time for Cutting Grafts.

The *Germantown Telegraph* thinks that the advice to cut grafts in the Fall, "before the sharp cold of winter injures their vitality," to be packed away in "boxes of fine damp moss, damp saw dust, or buried in earth or sand," all nonsense, and says: We never cut our grafts before February, and if the ground is not frozen, stick them in at the foot of the tree, then the variety is known without labeling. If the ground is frozen they are tied up, the bunch labeled and buried under a shed or in a rather dry place. We have set seventy of these grafts (pears) at one time, and every one of them grew. Once on a time we employed a professed grafted, who brought his own scions (plums), and set thirty-two for us, every one of which died. The following Spring we thought to try our own hand at it, and set sixteen (plums) on a tree fifteen years planted, the grafts cut as usual in February, and eleven of them grew. This we thought was doing pretty well with plums. If the grafts are carefully preserved and properly set, it makes no difference whether out in Fall or Spring.

The Phrenological Journal.

We have always been much interested in many of the departments so well filled by the editor of this Journal. It is always liberal and generous in its treatment of any social, literary or political question, still thoroughly orthodox on religious topics. It is a specialty in Journalism, has become very successful, and fills admirably a niche in literature of the greatest importance. Some of the best practical views of life we have gained from its pages, and it seems to reflect the very nature of its genial editor, Mr. Wells, who "is always doing good."

Big-Beet Crop.

The famous "Winchell" Nursery at San Jose, California, has raised Sugar Beets at the rate of over 50 tons per acre, and Dr. J. C. Cobb, of the same place, has raised 60 tons per acre. They must have grown straight up and down and all round each other; this is 3 lbs. to every square foot of surface.

Pomology.

A large portion of pomological literature is *dry reading*, to say the very least of it. This is the principal reason why we have not devoted as much space to a detailed list of new and unknown varieties of fruit, as some others. It is useful to a certain extent, but we know from experience, that there is a growing interest in home gardening, the ornamentation of home grounds, small fruit, cultivation of standard orchard fruit, and we find that these subjects are much more profitable to us and welcome to our readers. Since we adopted this change of programme from Pomology to Home interests, our new subscribers have flocked in by hundreds.

The Cactus as a Window Plant.

The *Farmers' Advocate* says this is much used as a window plant, and is very pretty when in bloom. To keep them through the winter, they should be allowed to get quite dry in the autumn, and remain so all winter, placing them away from frost. In the spring bring them into a warm room, and use very little water, which increase as the

season advances. These plants will bear the greatest extremes of dryness and moisture. Without proper attention is paid at the season of rest to keep them cool and dry, they never will bloom properly. Do not throw them out, thinking they are dead, in the spring, for they will come all right, and bloom well.

California Successes.

The aggregate value of the fruit crops of California, for 1870, was \$2,371,612. (The crop of Ohio alone, for same time, was \$7,000,000.) Cotton is a great success there, and Col. Stresy, its pioneer, is preparing to put out an 800 acre plantation. Beet Sugar is a success. The Alvaredo factory is clearing 100 per cent on its capital, and other companies are forming with large capitals to engage in the same enterprise; verily, California is not poor; we are amazed at her wonderfully recuperative power.

How to Grow Big Crops of Strawberries.

Give room; do not plant too close together; 2 feet apart is better than 1 foot; $2\frac{1}{2}$ by $1\frac{1}{2}$ to 2 feet, is just right for field culture; put a good shovelful of manure under each hill at time of setting. Put out no more plants than you have manure for. We are satisfied that the *big crops* depend only on the *liberality of the food*. One strawberry grower plants 2 feet by 1, and gets 2,000 quarts per acre; another plants $2\frac{1}{2}$ by 2 feet, keeps the runners cut, and gets 4,000 quarts per acre. The former cannot understand it, why with twice as many plants he gets only *half the crop*. We assure our readers, strawberries are like the colossal asparagus, *biggest, when they have the most room and best feed*; a crop of 1,000 quarts per acre will prove a failing business to any grower. It is better to reduce plantations one-half and manure double.

The California Horticulturist and Floral Magazine.

This is the first horticultural journal really established on the Pacific Coast. Its first issue is with the November number, and announces its Editor as F. A. Miller, a well-known landscape gardener, of San Francisco. When we look at the numbers of a new journal, we judge of its prospective success by three points: 1st, is it practical. 2d, is it genial. 3d, has it got a good publisher. We frankly express our faith in this new Pacific namesake of ours. It combines all the qualities needed to conduct it tastefully. And we learn that, in that limited horticultural field, it achieved a circulation of 1,000 paying copies before it issued its second number. Each number contains 32 pages, well filled with appropriate matter, and is published by F. A. Miller & Co., San Francisco, Cal. Price, \$4 a year.

Benefits of Tree Planting.

It is said that in arid Egypt, formerly desolate and sandy, irrigated alone with the overflowing waters of the Nile, there are now regular rains, owing to the forest trees planted by the Government. A Western writer begs our Eastern papers to throw all their influence to help devise some plan by which our Government can induce forest trees to be planted on the great plains beyond the Mississippi. Unless it is done, thousands of settlers must suffer both in crops and in their families for the lack of sufficient water.

Vick's New Catalogue.

Vick's new Catalogue for 1871, is far more profusely embellished with engravings than ever. The rapidly increasing extent of his business has demanded more room and better accommodations for the transaction of it. He has lately moved into a new building forty feet wide, five stories high, and 200 feet deep, and most conveniently arranged for the purposes designed. We are astonished at the magnitude of his correspondence. In busy times the mails will average 2,000 to 2,600 letters per day, and there are 125 hands kept constantly at work. Is not this a great success for ten years constant effort? And the cause of it all is, *liberal advertising*.

Barn-yard Manure as Mulch.

The *Rural New Yorker* says: We do not like to use fresh manure from the barn-yard as a mulching for strawberry plants, for two reasons. First, it is usually full of weed seeds, and these will grow and injure the plants unless destroyed. Second, if the

manure is applied early in Fall, or before the ground freezes, all sorts of cut-worms and grubs will gather under it for protection from cold, and be on hand to attack the plants in Spring. Still, if we had no other enriching materials at hand, and our plants required it, we should apply even fresh horse manure, without fear of consequences.

Timber Culture for Shelter, Ornament or Profit.

Recognizing the vast importance of a subject of so great a necessity to our Western people, we will hereafter devote special attention and considerable space in each number to *Timber Culture*, and particularly its profits, as inducements for general planting. We invite correspondence and articles from all Western arboriculturists or planters. Any notes, small or large, will be acceptable.

Profits of Horticulture.

Commencing with the March number, we will print a series of communications on the *Profits of Horticulture*, showing what has been done, giving actual examples of successful experience. In these dull times we do not expect every one to be carried away with the idea of making large profits from small pieces of ground, still it will be entertaining reading, and we shall introduce it as such only.

Bliss's New Seed Catalogue.

Mr. Bliss's new seed Catalogue for 1871, has swelled beyond its original proportions of past years, and is now a volume of dignified size, as well as practical contents. Several new engravings have been added this year; we may name Truffant's Peony flowered Aster, and the Ipomoea Coccinea. Four colored plates are introduced—English Pansies, the new Beet, Dark Red Egyptian, the Lilium Auratum, and the Trophy Tomato. Our lady readers often speak highly of the good quality of everything obtained from Mr. Bliss's warehouse, and hence we feel a pleasure in commending his enterprise.

New Catalogues.

The new seed Catalogues of Messrs. Henderson & Fleming, are unusually well printed, while the size has been doubled, and the number of illustrations have been largely increased.

The *Plant Catalogue* of Mr. Henderson is the richest of its class in the country, and exceedingly profuse in its engravings.

The Catalogue of J. M. Thorburn & Co. has also reached us, being of a neat, dainty, tasteful appearance, printed on tinted paper.

New Subscribers.

We are now receiving clubs very freely, and would remind all club agents that they may add other names as often as they choose, at the same rates, after the first full club has been formed and paid for; any subscriber who has remitted for one, two or three subscriptions, and afterwards has been able to get up a club of five or ten, may have the money previously paid credited toward his club.

We give the Eumelan Grape or Lilium Auratum as a premium for all clubs of two, three or five, and for all clubs of five or over, an extra copy of *THE HORTICULTURIST*, free.

Patience.

Our correspondents who have clubbed other papers through us, must allow us a reasonable time for transacting the business. Their letters often are a week behind in reaching us; then we must have three or four days here to make out lists; other publishers in the hurry of the season are sometimes delayed, and then time must be given for the mails to carry the papers back to the subscribers' post offices. Fully *two weeks* must be allowed, and sometimes three are unavoidable. Subscribers who would avoid interruption of their papers must remit us, two or three weeks *before* their subscriptions expire. We aim to be prompt as far as we are able, in our correspondence.

THE Horticulturist

EDITED BY
HENRY T. WILLIAMS.

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NO. 297.

Home Gardens.

BY THE EDITOR.

Roses for the Flower Garden.

IT is difficult to name a list of roses suitable for out-door gardens in all parts of the country. We find that roses bloom and grow far more vigorously the farther southward they are cultivated. A rose garden in the New England States would make but a poor show in comparison with some of the overwhelming examples of bloom we have seen in modest little Delaware flower gardens. Delaware is truly the home of the rose as well as the peach. But for latitudes like that of New York, and southward, we know no list combining so well the best of the old and the new varieties, as this, made out by James Stewart, of Memphis, Tenn.

The Giant of Battles with its gorgeous deep crimson, is popular everywhere. The ladies have always liked the Devoniensis for its delicate cream tint and pure odor, while the Baltimore Belle and Prairie Queen, as climbing roses, can hardly be displaced by the boldest of all new comers.

12. *White, and near approaching to white.*—Sombrueil, Clara Sylvan, Gloire d'Dijon, Woodland Marget, Juno, Queen Victoria, Pumelo, Aimee Vibert, White Moss, Nyphetos, Lady Warrender, Musk Cluster.

6. *Yellow, and approaching to yellow.*—Marechal Niel, Isabella Gray, Madame Charles, La Boule d'Or, Juan Hardy, Celene Forester.

6. *Lemon.*—Lays, Augusta, La Pactole, Cloth of Gold, Isabella Sprunt, Saffrano.

2. *Clear straw color.*—Lutea, Flavescens.

4. *Cream.*—Devoniensis, America, LaMarque, Madame Falcot.

6. *Flesh colored.*—Queen of Bourbons, Mme. Bosanquet, Lee's Blush, Louis Odier, Souvenir de la Malmaison, Madame Massott.

6. *Salmon color.*—Bougere, Ophire, Phaloe, Triumph of Luxemburg, Imperatrice, Josephine, Viscompte de Cazes.

8. *Peach blossom colors*.—Goleonda, Homer, Triomphe de Thumeniel, Sallett, Rubens, Adam, Victor Verdier, Alfred d'Dalmas.
3. *Distinct rosy lilac*.—David Pradel, Belle Charronnaise, Leveson Gower.
4. *Nearest to purple and black*.—Jupiter, Joseph Gordon, Prince Camile de Rohan, John Ingram.
6. *Crimson*.—Beauty of Waltham, Emperor Napoleon, Mount Carmel, Giant of Battles, Charles Wood, Gen. Jacqueminot.
6. *Dark and rosy red*.—Sir Joseph Paxton, Dr. Arnel, Leon des Combats, Rivers, Gen. Druot, John Hopper.
2. *Best running roses*.—Prairie Queen, Baltimore Belle.

The Ivy Plant.

One of the most beautiful rural sights can be seen any day by the traveler, as he passes St. Paul's church, Fourth avenue corner Twenty-second street, in this city. Five or six years ago, some attentive gardener planted cuttings of the English Ivy in the soil just at the base of the sides of the church. For several years they seemed merely to have devoted their strength to the gaining of a foothold in the grass which grew so close and luxuriant around,—hence did not make a vigorous growth upward. But of late they have pushed their long slender green arms upward along the glistening sides of the pure white marble surface of the church exterior, and are covering it thick and deep with a most luxuriant coat of deep green foliage. The base is already covered, and the tiny frondlets are fast working their way upward over the doors and windows, well on to the roof itself. Was there ever a more tasteful sight? The contrast between the pure white marble and the vivid green of the ivy, constantly excite the attention and remark of every passer-by, and we note the out-cropping of this insensible lesson of rural taste. We see ladies everywhere decorating their windows with little pots and baskets of flowers, while a choice corner is reserved for the "ivy green," where in its rapid growth it is carefully trained up the window sides, or on the curtains that hang so charmingly around.

A Philadelphia correspondent of the *Journal of the Farm*, asks: "Why is it that the Ivy plant is not more generally appreciated, or at least cultivated in this country, for I do not think I ever knew a person who did not admire it? It will thrive almost anywhere, is a rapid grower, needs little or no care, is always beautiful, and a thing of joy forever. It will ascend unsightly walls, and cover them with a leafy green that is always refreshing to look upon. It may be the means of hiding the unpleasant aspects of stumps, and even where it is not required as a mantle or cloak with which to cover up that which is not pleasant to the eye, it is pretty. I know of no more refreshing sight than that of the gable end, or even the front of a house, densely covered with the rich foliage of this fine plant. It appears to me that the commissioners of Fairmount park, might introduce it more extensively in that splendid place. In fact the ivy is pretty almost wherever it is met with; whether trailing over ruins, clambering up the walls of modern residences, or running over the ground, where it will form a fine verdure in locations so shaded that grass will not grow well."

Truffaut's New Peony Flowered Aster.

The Asters have been so much improved of late years by foreign florists, that they have developed into flowers and shrubs of exceeding beauty of habit and color. They are profuse bloomers, and seem to thrive in ordinary soil and moderate care,

*Truffaut's Peony Flowered Aster.*

but are best in a warm, light soil, mulched lightly in too hot or dry weather; an occasional supply of manure water is a benefit, helping their size, beauty and duration of the bloom of the flowers. The floral world is indebted to Truffaut, the cele-

brated florist of Versailles, France, for the production of what is now considered the "gem" of all varieties, his new "Paeony flowered" Aster (see illustration). The habit of the plant is fine, about one and a half feet high, flowers very double, round in shape, resembling a ball, and surpassing all others in size and brilliancy of color. Among other new varieties worthy of memorable note are the following:

New Giant Emperor.—It bears only a few flowers on a robust, strong stem, from which the side shoots grow in the form of a Candelabrum; the flowers are very brilliant, double, and immense size. In favorable cases the side shoots produce as many as five flowers, of which the chief blossom is four inches in diameter.

The Imbrique Pomponne, with its numerous miniature flowers, is equally attractive, and particularly suitable for large flower beds or intermingling in the borders with dahlias, gladioli and roses. Of the dwarf varieties, the principal are the *Chrysanthemum*, its large flowers almost hiding the foliage, and the *Bouquet Aster* with its profusion of blossoms; this last, when well grown, will produce perfect plants, each of which forms a bouquet of from 150 to 200 flowers, completely hiding the foliage, and producing a fine effect in mixed borders.

Perennial Phlox.

The ladies who have abundance of room in their gardens, will not be apt to overlook them the coming season. Here is a list of the best varieties worthy of culture:

Admiral Heinneis—Bright rose; deep carmine centre.

Ball of Fire—Dark crimson; finely formed flowers.

Cross of St. Louis—Lilac and white striped.

La Candeur Pape—White; crimson eye.

Madame Rollison—Bright crimson.

Madame Mason—Lilac, with white centre.

Mrs. Punch—Salmon scarlet; dark eye.

Rosedale—Deep rose color; violet eye; immense truss.

Surprise—Large cherry-red centre; outer edge pure white, shaded with scarlet; extra.

Silver Star—Pure silvery white, with distinct scarlet eye, and large truss.

Sunshine—Rich salmon scarlet; deep carmine centre.

Van Houth—Pure white, with crimson stripes; extra.

White Queen—Pure white; of dwarf habit.

Liquid Manure for Gardens.

No one doubts the utility of liquid manure, but we cannot get enough of it, and it is, after all, some trouble to make it; perhaps no more trouble with it than it is worth. A Pennsylvania gardener gives the following directions for making a liquid manure of right strength, suitable for use in flower beds and around the garden: "I have used, for several years, a liquid manure which is very effective in pushing on the growth of vegetables, strawberries, roses, grass, etc. My first test of it was the pouring of a stream from a watering pot across a piece of poor grass opposite a post which served as a mark. There was soon a distinct wave, as bold and as green as the line of a fairy ring. This season I show half a row of peas and half a bed of strawberries, very superior to the other half, to exhibit the application. It is

chiefly, I suppose, sulphate of ammonia, and is made thus: To one gallon of stale urine (at least one week old) in a deep wooden vessel or crock, add two ounces of sulphuric acid. Next day put in a couple of ounces of chalk or lime, to take up any acid remaining free. Stir. Put a pint of this into a pail of water, and use once or twice a week on growing plants, and preferably when the ground is wet, as it diffuses them among the feeding points of the roots better."

The Star Ipomoea.

For training over old stumps of trees, or against walls and trellises, or as a happy contrast among other climbers, the Star Ipomoea is justly a favorite. Many of the varieties of the Ipomoea are very beautiful; their fine foliage and graceful form render them indispensable ornaments for green house, conservatory or garden decora-



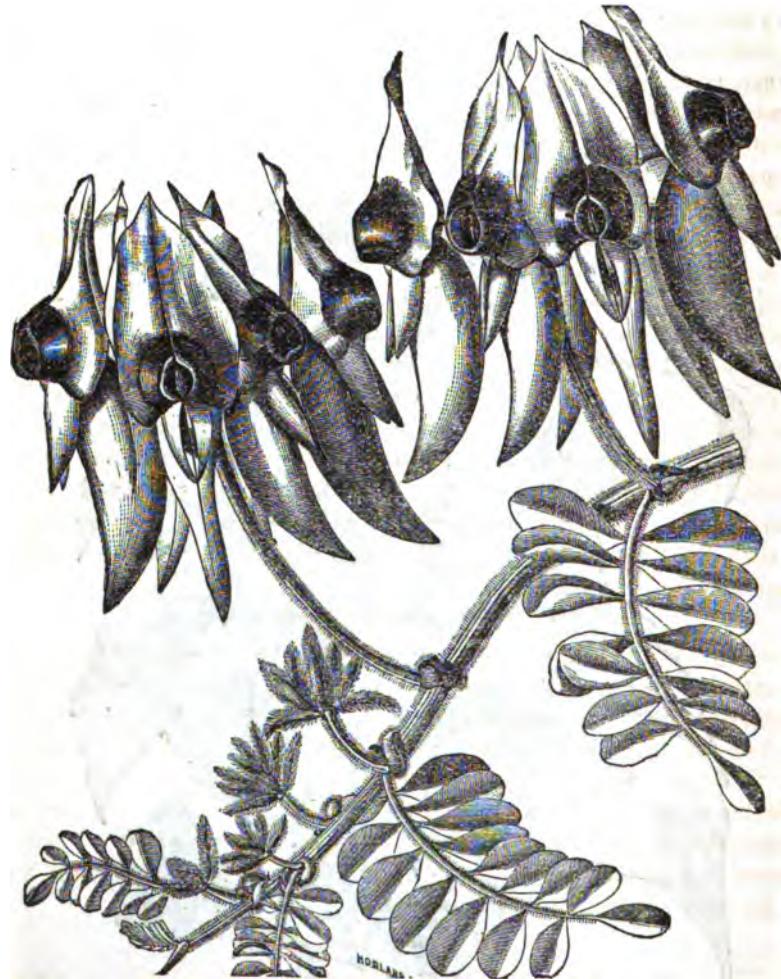
Ipomoea Coccinea.

tion. The Star Ipomoea is honored as the finest of all varieties of this class; the flowers are scarlet, small, and form in great profusion; introduced from the East Indies.

Among other new varieties are the *Bona Nax*, of a violet color, very large, fragrant blossoms, which expand in the evening; grows to the height of ten feet. The *Mexicana grandiflora alba* is white, with immense flowers and long tubes; introduced from Mexico.

Clianthus Dampieri.

One of our lady readers writes us: "You cannot say too much for that most beautiful of all garden flowers, the *Clianthus Dampieri* or "Glory Pea." My children call them "Scarlet Birds." Mr. B. K. Bliss favors us with an illustration of it,



Clianthus Dampieri.

and says: "It is one of the most beautiful plants in cultivation, about three feet in height, with neat, compound leaves, and drooping clusters of large, rich scarlet, long petaled, pea-shaped flowers, three inches in length, something similar to the splendid blossoms of the Coral tree, each flower being picturesquely marked with a large black, cloud-like blotch in front; introduced from New Holland. It has

hitherto been considered difficult to cultivate, but lately has proved agreeably the very reverse. When sown in the open air, on a dry, warm sunny border in May, it will grow luxuriantly and bloom profusely all summer. It requires but little watering, for when too much water is used, it will damp off."

How to Make a Lawn.

Mr. P. Barry, in his excellent address before the Geneva Horticultural Society, says the following is the simplest and best way to make a handsome lawn: "The ground should be entirely free from stagnant water. It must be trenched or trench-plowed to the depth of eighteen or twenty-four inches. A week of hot, dry weather will be sufficient to dry up the grass on a thin soil, whilst on a deep, well-prepared soil, a whole month of drought will fail to destroy the verdure. The depth, whatever it may be, should be uniform, for if it be deeper in some places than in others, the deep places will settle and make the ground uneven. Evenness of surface is of great importance. I do not mean level, for an undulating surface is quite as desirable for a lawn as a level one, but whether level or undulating it must be smooth and free from even the smallest stones, as these interfere with the operations of the mowing machine.

Red top is the best grass for a lawn, about fifty or sixty pounds to the acre. Fifty pounds will be sufficient if the seed be clean and good, which it seldom is. Some people recommend white clover, say one-fourth, to be mixed with the red top, and this does very well, but I prefer the pure red top. Early in the spring is the best time for seeding a lawn. All preparatory work should be performed in the fall, so that during winter the ground may settle, and any defects that may be developed can be corrected before sowing. In spring, at the fitting moment, give a light plowing, a good harrowing, pick off the stones, sow the seed, and give it a good rolling, which finishes the work. By sowing early in the spring you may have a respectable lawn before midsummer."

The Double Flowering Fuchsia.

Nothing in the floral world can be more beautiful than a well grown plant of the Fuchsia, either double or single, studded all over with its bright wealth of pendant floral gems—so elegant and beautiful, so easily grown, and now so well appreciated. The Fuchsia delights in a light, rich soil, and requires a partial shade to succeed well through the hot weather of summer; above all, to be kept free from the red spider, which is the worst pest it has to contend against. They may be grown in pots (taking care they do not suffer at any time for want of water), or planted out in the open ground in a partially shaded place, where they will succeed and bloom finely, if the soil has been prepared to suit their wants.

Everlasting Flowers.

F. R. Elliott recommends for indoor ornament during the winter, when many flower-lovers are not able to maintain a green-house, the use of *Everlasting Flowers*. These flowers are grown out-doors, and in the fall, at the right season, they can be cut, dried, and preserved for ready use. They retain their freshness and color through the entire winter, as bright as when first gathered. In the large cities quite a trade is carried on in the way of "Immortelles," or everlasting flowers, even to the

importation of thousands; and there is no reason except that of neglect why every home fireside throughout the country should not in winter be made gay and beautiful with them. Their culture is no more difficult than that of any other hardy annual, while at all times during winter their flowers are invaluable to make gay the festive room, to deck the church or the school house, or in wreaths entwined to offer as tribute of memory, respect, and love on the bier of the dead.

In the cemetery, at all seasons of the year, no flowers are more appropriate wherewith to decorate than those of this class, for neither rain nor sun injures them when well prepared; and while they in their brightness and bloom shadow the effulgence of a future world, their very name on earth is that of eternity.

The *Rhodanthe* is, perhaps, one of the very prettiest of all, its flowers being bell-shaped before fully expanded; and it is in that condition that many prefer to gather and dry them, as they then work in most charmingly with others of full-expanded form.

The centre figure should be a *Waitzia*, a variety of the Everlastings that blooms in clusters, very delicate, and of a beautiful clear yellow. These should always be gathered just as soon as they are fairly expanded; for, if left on the stems exposed, they are liable to become dingy and the centres much discolored. The *Xeranthemum* is one of the easiest cultivated of any of the annuals—its seeds germinating freely, the plants transplanting well, and when grown to about one foot in height, blooming freely. They are of different colors. The *Helichrysum*, as well as the *Gomphrenas*, the latter sometimes called English Clover—are also varieties of the Everlastings which should be grown by every one. The *Helichrysum* is one of the easiest to grow—any good soil will suit it; and the plants are vigorous and very showy even for the border in summer, and exceedingly valuable for the winter.

Gravel as a Mulch.

IN the spring of 1870, I had the superintendence of planting some 200 trees of various kinds in and around our public grounds. The spring and succeeding summer was one of unusual and excessive drouth. About eighty of these trees, White Elm, Soft Maple, American Linden, Catalpa, etc., were planted on the side-walks for street trees; they were on an average ten and fourteen feet high. They were planted in a rather poor clay soil (mixed in planting with a rich, black, sandy loam), and within a few inches of the curb stones; the gutters being shallow and well bouldered. The walk was covered with about four inches of gravel. Every one of these trees grew finely, many of them making a growth of branches two or more feet in length. Some of the elms when planted, seemed almost dead, but they started and grew well. None of them were watered artificially. The same kind of trees planted within the enclosures in much better soil, but without the gravel mulch, grew very little; many of them, probably half, died, notwithstanding constant care in watering, deep and well drained soil, shortening in mulching with grass and litter, etc. The same fate attended more than half the trees planted by others all over the country. Hence, I conclude that *gravel and small stones* are unsurpassed as a mulch.

They allow the rains to readily penetrate the soil, retain moisture, absorb heat and equalize the temperature. The practical utility of gravel as a mulch, where it can be easily procured, should be tested by all tree planters. It will not injure heavy clay soils, at least, but will be beneficial.

R.

Forcing Strawberries.

AT the annual meeting of the Pennsylvania Fruit Growers Society at Chambersburg, Pa., last January, in the course of the session, the subject of forcing strawberries under glass was discussed. The most important facts were elicited from the remarks of D. W. Herstine, the substance of which is as follows:

I doubt very much whether greenhouse culture in pots or boxes could be made profitable, even if they could be ripened in February and March and sold at five to six dollars per quart. But what I term hot-bed and cold-frame culture, is so simple and attended with so little expense and labor over that of open air culture, that I hold they can be made profitable, aside from which is the satisfaction to an amateur of raising an abundance of that delicious fruit for his own table for from two to three months (from April to July), instead of as many weeks, as is usual (in June). For the hot-bed I layer the earliest and strongest runners in small pots, and when well rooted, transfer them to six inch pots, the soil to be of such a character as to encourage the most vigorous growth during the fall. I give them sufficient protection to prevent hard freezing during early winter, and during the mild weather which usually occurs in January, I prepare the hot-bed with a view of getting only moderate heat that will last the longest time, and have found about equal parts of stable manure and forest leaves to answer this purpose admirably. The soil should be very rich, six or eight inches deep being sufficient; I then knock the plants out of the pots very carefully so as to disturb the roots as little as possible, and set them about four to every square foot, then put on the glass; they will start at once without drooping a particle and make a surprisingly vigorous growth; they require careful attention as far as airing is concerned, and an occasional watering, unless there are plenty of warm rains in February and March, during which the sash can be pulled down. I have planted January 15th and ripened fruit by April 1st. The Wilson's Albany is the variety above all others suitable for this mode of culture, and in fact is the only one which has given me a satisfactory result. For the cold-frame I prepared the ground about as an amateur would for open air culture, trenching deep and manuring heavily. Set the plants in the spring, one to every foot square, keeping clear of weeds and runners during the summer, cultivating moderately. Before hard freezing commences, or at any time during the fall, set the frames, which should not be over 15 inches high on the one side and 10 to 12 inches on the other, giving only sufficient slope to carry off the water. The most convenient width for the frame is eight feet, and sash four feet wide. The plants should receive about the usual winter mulching, as in open air culture, of leaves or clean straw. About the middle of February or as soon after as the weather will admit, the mulching should be removed and the sash put on; a healthy growth will soon commence, and the

only care they require after that is the proper airing, an occasional weeding and watering. I let them have all the warm rains that fall during February and March. I have always succeeded in ripening fruit about the first of May, or four weeks before it ripens in the open air, and of the largest size and finest flavor, much larger than I have ever grown the same varieties out doors. From a frame 8 by 16, I picked the first crop 25 quarts, the second 22, and the third 15 quarts. From a frame 100 feet long, 8 feet wide, I picked the first crop 120 quarts, which I sold at an average of about two dollars per quart, starting at five dollars and down to one dollar, netting two hundred and twenty dollars, and the whole cost of the sash and frame was one hundred and fifty dollars, and they will last for ten or more years.

Not more than two full crops can be taken from one bed; in growing for profit it would probably be advisable not to depend on more than one; that would only involve the necessity of shifting the frames every season, which is a small matter. The varieties I have found best adapted to this mode of culture, are the "Wilson's Albany," "Russell's Prolific," "Jucunda," and "Stinger." I tried various others without any success; Triomphe DeGand, Agriculturist, Fillmore, and others, and in growing for profit I would discard all but the two first named. The "Jucunda," and "Stinger" attain to an enormous size, are moderately productive, but not sufficiently early for profit.

The Erianthus Ravennæ.

LOVERS of ornamental grasses must not omit this season to find room in their flower garden or lawn borders for that gem of gigantic grasses, the *Erianthus Ravennæ*, or *Ravennas Woolly Beard Grass*. When in full bloom it attains a height of from nine to twelve feet, after two or three seasons growth from seed. It resembles at a distance the well known Pampas grass, but is far more curious and ornamental. Its leaves beneath are narrow, its flower stalks are numerous, and rise gracefully from its base, and at their top bear a very showy tufted plume. In a light breeze, the stalks sway easily to and fro, and the tufted bloom rustles and bows gracefully, making a very picturesque appearance. In the latitude of New York it has thus far proved perfectly hardy, although it is best to protect it during the winter. It has one great advantage of flowering freely, and produces seeds abundantly. If the seeds are started in a hot-bed in March, they will produce plants large enough to throw up the first season flower stems as high as four feet by October. When well established for two or three seasons, fine plants will send up as many as thirty flower stalks, and increase in height until they reach ten feet. We know of no novelty of genuine merit better worth an introduction to the homes of our citizens than this beautiful plant for lawn or garden decorations.

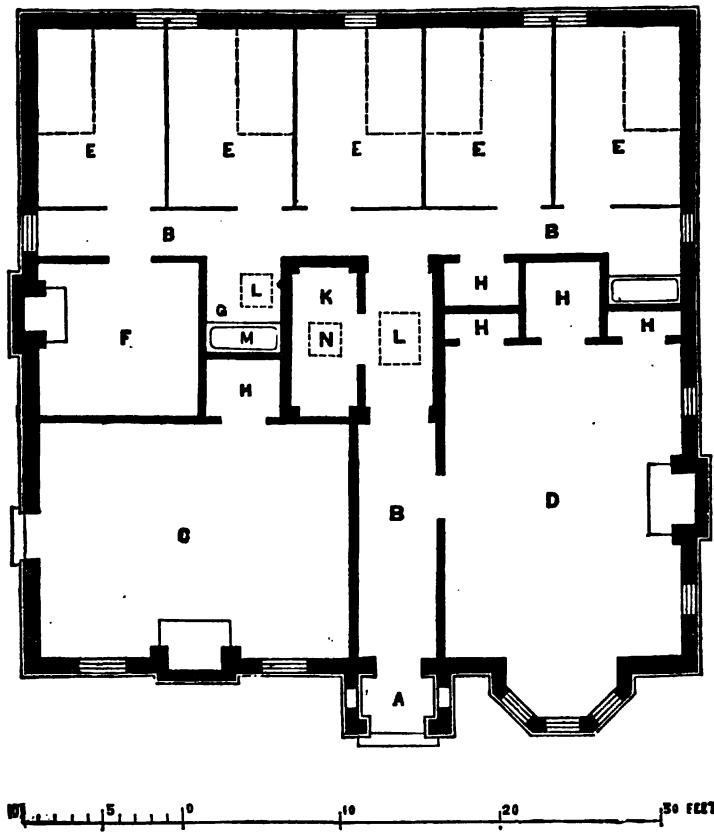


The Erianthus Ravennæ.

A Gardener's Cottage.

THE illustration of a gardener's cottage on the opposite page is taken from a model building erected at Wimbledon House, England, now the residence of H. W. Peck, Esq., a member of Parliament, for Mid Surrey. The object was to provide a cheerful, tasteful home for the gardeners or laborers of the place, apart from the mansion itself, having commodious rooms and every accommodation for their comfort and health.

The design is one which many of our wealthy American landed proprietors may copy to great advantage. Hitherto our dwellings or villas have all been constructed

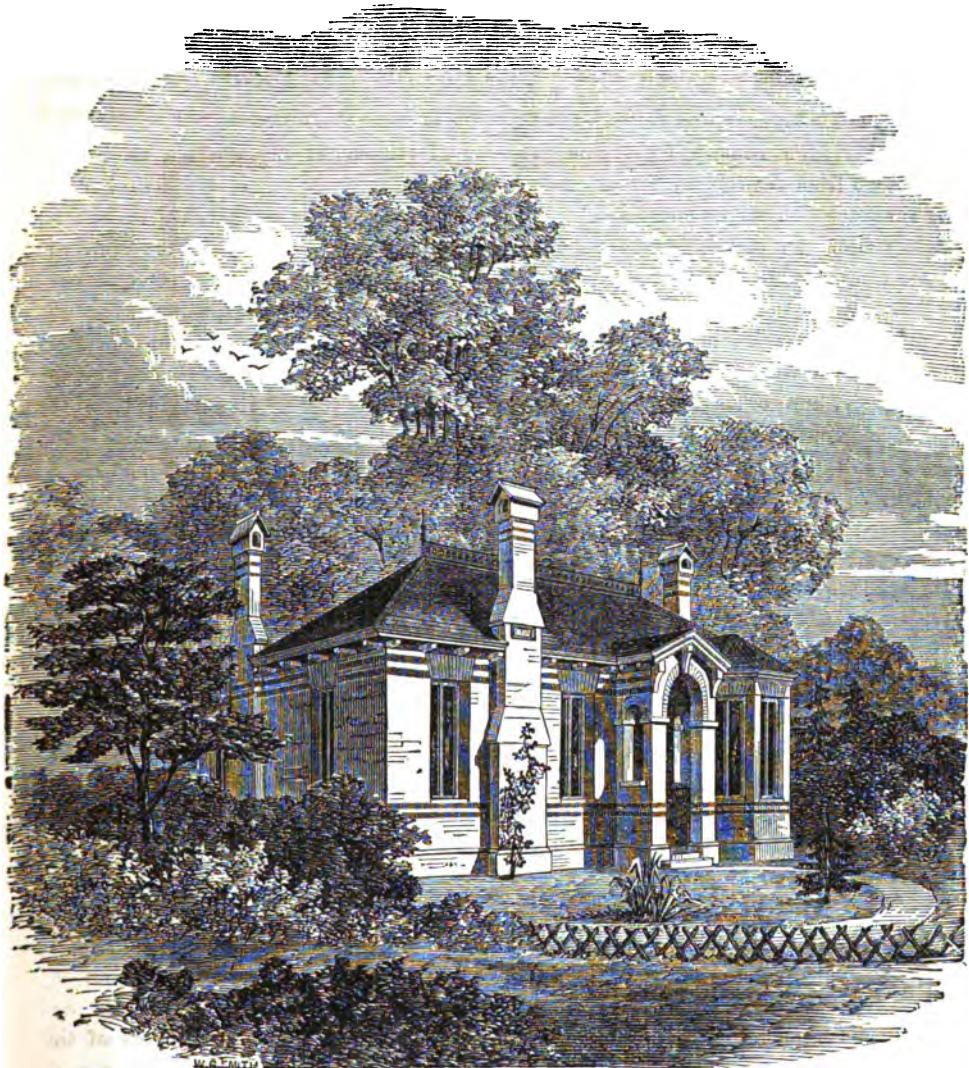


Plan for a Gardener's Cottage.

0 5 10 15 20 25 FEET

with the purpose of accommodating under one roof, not only all members of the family, but all servants, male as well as female, and all laborers employed upon such place. This is sometimes very inconvenient, and often disagreeable to have all clustered together in so close quarters, and we have often heard the wish expressed that the custom might be early introduced of providing separate buildings for accommodating the male help, where they can enjoy a liberal freedom in their own living, dining and sleeping apartments, without annoyance to the family.

This gardener's cottage is admirably constructed for this very purpose. It will be seen that there are separate bed-rooms (E), one for every laborer or gardener, with passage ways, B, for ingress and egress without entering the other rooms or creating any disturbance. At (M) there is a lavatory and towel racks for washing purposes. F is used as a sick room in case of accident, injury or sickness, with a cheerful fire-

*A Gardener's Cottage.*

place at the side. C is a large room for eating, and the free use of laborers in their usual conversation. D is intended as the sitting-room or parlor, and neatly fitted up in a cheerful and tasteful manner. Ample closets (H, H) are found opening from every room or the passage ways, while at K, there is a store-room for boxes and

other material. *L* is for the skylights, and *N*, trap. The building is about forty-five feet square. Here we have a model building, substantial, yet not costly. And with the accompanying surroundings, indicative of flower gardening and ornamental improvements, we doubt not the lesson of rural taste is well instilled into the hearts and minds of all laborers, making them better men and happier citizens.

Some Hints on the Economy of Planting, etc.

By John Jay Smith, Former Editor of the "Horticulturist."

A STRIKING illustration of the progress of refinement in America might be drawn from the improvements made in planting, in the kind of ornamental trees and shrubs which we assemble now around our homesteads, as compared with half a century ago. In our fathers' time, European and other voyages were too slow to insure the probable safety of evergreens and other valuable novelties. Our grandmothers, when they moved from the Atlantic coast to distant Ohio, traveled on horseback and carried in saddle-bags apple *seeds* for planting, and hence the new and often good varieties. The trees themselves they could not carry. So of the European and Asiatic, and other beautiful productions. Steam stepped in just in time to benefit a growing taste for the beautiful in arboriculture, and all China and Japan yielded, in the time of persons still living, the wonders of other lands. Think for a moment of the riches sent home by fortune alone, and but yesterday was actually discovered the great trees of California, and we found such valuable adjuncts to our arboretums as the *Cupressus Lawsoniana*. Steam now enriches every land with the valuable products of every other. Acclimatization, known and practiced from great antiquity, has cut its art; we now possess such a range of beautiful botany as would have astonished the dwellers of the North but a short time since.

What will grow in certain climates is an interesting study. Just on the limits of a 'frozen region, we, of Philadelphia, have the Ivy and the Cedar of Lebanon, with little or no care or attention, while but a few miles north of us their successful growth is impossible. I began my planting experiments forty or more years ago, when I was fascinated with Loudon's writings, and lost of course about one-half of every importation, for then we had in the United States no Downing, in short no teacher on this and kindred topics.

And here let me remark that the literature of gardening and planting is leaving out, for other and important topics, that grand feature of home adornment, ornamental tree planting. We see too little published on new evergreens, and very few, if any, instructions as to their hardiness are now promulgated. Climates should be studied and information given more copiously on these matters, for a new race of amateurs grows up rapidly, and they will not always turn to older authorities.

It may be said that the best trees, like the best people, are the rarest! The pleasure of variety, even in small grounds, is little understood; it is very common to have half a dozen or more of one kind of trees on half an acre; six Norway firs would be better supplied by two, and a few of the finest Magnolias substituted; and who wants a dozen Wiegarias? as we often see them. But here is a wide field for

discussion, and I turn to the main object of this paper, which is to advise *frequent and moderate importations*.

It is a fact that the climates of France and England admit of the seeds of even our indigenous trees to be sent thither, and young trees to be returned to us at a cheaper rate than we can produce them here; this is partly owing to cheapness of labor and the employment of women. Take for an instance the general favorite, the Norway Fir, *Abies excelsa*. I have been for thirty-five years in the habit of importing them for the use of Laurel Hill Cemetery, a few thousand say every other year; yearling plants are sold by Andre Leroy of Angers, France, as low as \$3.50 per thousand, and two years old, and transplanted trees, at only five dollars, say half a cent each. These are so packed as to be prepared for reaching even our Western States in good health, where they would make the best shelter. Everybody knows what they will be worth in five years, more or less, and I therefore recommend a trial to all who have a little money or a great deal, and who have patience to wait the transformation of one cent into a green-back. In each importation I include one or more specimen of some new and rare conifer or deciduous tree, and always a few hundred small Rhododendrons, etc. In this way Laurel Hill and its successor, "West Laurel Hill," now rising to great beauty, is regularly enriched, and thus I am able to exhibit fine mature cones, for instance of the Cedar of Lebanon, planted by myself in 1836. But one of several trees has come into bearing; it is curious, as illustrating the effects of exposure and warmth, that these cones grow only on the southern side of the tree now thirty-five feet high.

With such a resource as these nurseries afford, there is no occasion of sending to distant points for trees; they are on the spot, and removed to proper places without the delay which attends a long transportation. Add to these a nursery always in progress of plenty of American Arbor Vitæs and Hemlocks taken annually from the forests of Maine or Pennsylvania, and every one fond of planting, whether for private grounds, parks or cemeteries, will be in possession of an inexpensive resource. Our public parks started in a hurry were without this resource, but it is never too late to begin, for trees and shrubs will always be in request.

As an instance of what may be done in this way, a landscape gardener assured me that my importation of three years ago would be worth to him this and next spring five thousand dollars. Its actual cost all told, delivered and planted, was three hundred dollars! England and Scotland afford fine fields for importers, and France, we may hope, will soon offer its former facilities.



The Lennig White Strawberry.

A few Choice Fruits for Rural Homes.

If we seek a strawberry for market we shall certainly pass by Lennig's White. It is confessedly not a rival for the Wilson in producing a sure crop on all soils; nor of the Jucunda in size and evenness of berry; nor of Russell or Agriculturist, or whatever else in localities may be the best berry for profit. But for an amateur garden—no, I mean a *home* garden—when you seek to have the choicest, the most

delicious fruits, Lennig's Strawberry has won a right. There are many becoming so educated in taste that they cannot endure a grape anyway inferior to the Delaware. The Concord, with all its acknowledged advantages, is not welcome on their tables. They have an ideal in flavor as an artist has an ideal in his art; or the florist an ideal for his dahlia or rose. The pressure in strawberry culture has thus far been toward size and solidity for carriage. We have been bewildered with the facts of fifteen to a pound, or seven inches in circumference, and fabulous profits per acre. The Wilson and Jucunda can fight out this battle. What we need now is a berry that, with other qualities at least average, can establish a standard of flavor; a berry that we do not care to sell but to eat. My object in writing this article is to claim for Lennig's White the nearest approach to this taste test. If there be a Seckel or a Delaware among strawberries, this is it. I have seen it often compared with a dozen of the leading varieties, but never heard but one opinion, "this, for exquisite flavor, is unsurpassed." It is a moderate sized berry not remarkably even in growth, nor a very productive bearer. It is, however, not a poor bearer, nor by any means small in size. Its color is a delicate blushed white, a sort of fleshy pink on the sunny side. We sometimes speak of a blush on a pear or apple, or peach; I think if a fruit can blush, this strawberry does it. A dish of them looks like childhood in its purity. Every eye will seek them, and be gratified with the sight before the palate pronounces judgment. The vine needs careful culture, but is a rampant grower, spreading as rapidly as any of the red varieties. The shoots are strong, do not sunburn, or easily winter kill. There is a decided tendency to perpetual bearing. You can be very sure of finding a few berries at any time from June's first crop until the snow falls. I picked most luscious specimens the last of October, in 1870. The flavor is contained in a kind of aroma that seems to reach the sense of smell as well as taste. I am now experimenting with seedlings and hope to get an improvement—perhaps not. Let the readers of the HORTICULTURIST who wish to find just the nicest things to make home charming, remember Lennig's White Strawberry.

Fountain for a Conservatory.

THE illustration of a fountain upon the opposite page is selected from among a large variety of designs in the possession of the Composite Iron Works Co. of this city. It is simple, yet tasteful; the jets are well disposed in an artistic manner, while the figure, its base, and the spray descending into the basin, make a beautiful and appropriate display for either the parlor or conservatory.

Bouvardia Vreelandii.

THIS is one of the most valuable of recent additions to the Bouvardia family, a charming class of winter flowering plants. It was originated by S. B. Vreeland, of Greenville, N. J., from the B. Hogarth, and possesses all the admirable qualities of the former in hardiness and vigor of growth, but is especially noteworthy for its profuse blooming, bearing large trusses of pure white flowers, from two to three times the size of any from its parent. It can be readily propagated from either top or root cuttings, and will be acknowledged by all florists as a valuable acquisition long needed in our Conservatories and Greenhouses.



Fountain for a Conservatory.

Among the Flowers; or, Gardening for Ladies.

BY ANNE G. HALE.

V.

Preparations for Out-of-door Gardening.

WHY is it that so many ladies of taste, who love to adorn their persons with flowers, and to decorate their rooms with floral designs or collections of flowering plants, have so little desire to enhance, by the same means, the beauty of the external view which those rooms command, and to add similar attractions to the outside of their dwellings? It must be from the prevalent, yet mistaken, idea that gardening is too hard work for them; for, those who can claim brothers, husbands or fathers, who, possessing the taste and having the leisure for horticulture, exemplify it, or, those who can afford to pay for the making and care of a garden, are always quick to perceive its advantages, and to enjoy them to the utmost. But there are many household occupations which ladies are expected to perform, and which they do perform without injury or complaint, that are much more wearisome, and more difficult to accomplish than gardening.

It is true, spading and hoeing—the heaviest operations of horticulture—are laborious; but these are the preliminary steps, and should be taken slowly and prudently; or, if one chooses, a man or a stout boy can be hired to do those jobs for a small compensation. Still, I know from personal experience, that one hour a day, for five or six successive days, at spading or hoeing, so far from being too hard—even for those who are considered the most delicate of the weaker sex—is invigorating and healthful exercise; especially when those who take it spend the remainder of the day in sedentary occupations—as those who are dyspeptic, low-spirited and languid will quickly discover. But we are all apt, in any pursuit, to let our ambition, or our fondness for the employment, get the better of prudence; so, ladies who attempt gardening should govern themselves by the following rules:

1. *Never work a moment after you begin to feel tired.*
2. *Never work in the rain, nor in a cold wind, nor under a hot sun, nor directly after a meal.*
3. *Never work in unsuitable clothing.*

And this brings me to an important point. Gardening is earnest work; it will not do to poke here and push there, and potter around anyhow and anyway—there must be thorough and well-directed effort. As a means toward this, every lady who looks for success in gardening will provide herself with a proper dress for out-door work—garments which, while allowing freedom of movement to every limb, will afford sufficient protection from the weather, are not injured by dust, mud, or sunshine, and can withstand frequent contact with stump and stake, and brush and briar. Trains, panniers, flounces and peplums are inadmissible. Nothing but a plain, round, one-skirted dress, made rather short, and no sashes, no bretelles, and no Lady Douglass sleeves—only a neat fitting waist, loosely belted, and coat sleeves. A broad-brimmed hat, a pair of rubber or buckskin gloves, and thick leather shoes or boots—without heels—should complete the costume. There need not be wanting a simple, white linen collar and cuffs, with a plain brooch and buttons, or a fastening of pretty ribbon, and the suit is as becoming as it is serviceable. Then, with borax

water to remove all soil and stains, and to heal all scratches or chafes, she is prepared to take gardening matters comfortably and easy.

This borax water should be a *saturated solution*, as it is called. To make it, put crude borax into a large bottle, and fill in water. When the borax is dissolved, add more to the water, until at last the water can absorb no more; a residuum remains at the bottom of the bottle. To the water in which the hands are to be washed, after gardening, pour from this bottle enough to make it very soft. It is very cleansing and very healing. By its use the hands will be kept in excellent condition—soft, smooth and white.

There are few dwellings without land enough to support a small number of plants. But the situation may not be suitable for flowers; they need a sunny, sheltered spot. If you have reason to think that flowers will not thrive on your premises, you may try vines or shrubs, and gain a great deal of pleasure in rearing them; or, if you must be contented with a mere grass plat, its velvety greenness will be so refreshing in the glare and heat of the summer sun, that you will feel amply recompensed for all the time and pains spent upon it.

Still, you may have a favorable situation, and are in doubt about the soil. The best soil for flowers is the loose, light brown loam; but you may be sure that where weeds will grow, garden plants will do well. If the ground about your house is sandy, it can be improved by mixing with it meadow soil, or by covering it with loam to the depth of eighteen or twenty inches. If the land is low and damp—a long time in drying in the spring, or after a rain—it should be drained. To do this a trench should be dug, along its lowest side, if it have any depression. It must be two feet wide and three feet deep, and so arranged that one end is lower than the other, to allow the water to pass off. This trench must be filled, to the depth of a foot or more, with large stones, a layer of brush next, and then light, rich mould, to make it even with the soil of the surface. This should be done as soon as the frost has left the ground in the spring; better still, before the rains of the previous autumn.

If your land is rocky, or if you have a square corner that is shady, you can arrange rocks and other rubbish there, and take much delight in beautifying the place with the plants that thrive best in such sequestered and unpromising situations.

Now for the tools. Get a spade, or a digging fork, and a hoe—those that are manufactured for ladies' use, if you can. A weeding hoe, a coarse-toothed rake and a fine-toothed one; a trowel, a pair of shears, and a good, stout knife—what is called a pruning knife—a watering pot and a syringe. Procure good tools, use them carefully, and keep them in working order. After using iron or steel tools, it is well to wipe them with a bit of clean paper, and then to rub them a minute with an oiled woolen cloth before laying them aside; this prevents rust, which ruins all such implements.

Some of our horticultural sisters may wish to try their hand at raising vegetables, but as most ladies turn more readily to the cultivation of flowers, these must receive attention first; perhaps, at some future time, we will take up that branch of gardening. We must also have some regard for the season in our plan of operations. If

we are now commencing a garden, we must do without crocuses and snowdrops, and the hardy kinds of tulips, narcissuses, and iris, that bloom in the early spring; their bulbs, and those of the lily of the valley, and other hardy lilies, peonies, daffodils, polyanthus, and primrose, must be planted next autumn. We can set out vines, and trees, and shrubs in April and May, if we choose, though they will not bloom this year. When re-set, or transplanted, in October, they get so well started that they will blossom the next spring as well as if they had not been removed; but it is frequently necessary, in laying out and arranging a garden in spring, to do this then.

In order to procure plants (annuals) for early flowering, it is a good plan to make a bed in a sunny, sheltered spot, some day in October, and to sow it with flower seeds; then to cover it with dead leaves, and to place boards upon it, for protection through the winter. In May remove the boards and rake off the leaves. After a few days the young plants will have started, and if covered at night with a shallow box, or a screen (made by nailing together pieces of board three or four inches wide, to form a frame the size of the bed, and stretching and tacking over this an old shawl or blanket), they will grow rapidly, and, when the ground is ready, will be large enough to transfer to the place they are to occupy through the summer.

Another excellent and easy way of getting flowering plants in advance of open-ground sowing, is to fill boxes, that will rest on the window sills, with good soil, and plant in these the seeds. The soil should be secured in the autumn, and kept in the cellar, or some place where it will not freeze, till February. Then have ready cigar boxes, or boxes of pasteboard, or of birch bark. These last may be easily cut and sewed by any child of ten years. Moss, or a thin coat of cotton batting or wadding, should be placed within these boxes, as a lining, to prevent leakage. Put the soil into an iron or tin pan to heat in the range or stove oven, and when it is comfortably warm to the touch, and of equal temperature throughout, fill it into the boxes, scatter the seed sparingly over the surface, and then sift over it a little of the soil. The smallest seeds should be mixed with some of the soil, and then sifted upon the surface; they will need no further covering. Set the boxes in the sunniest windows you have; at night keep them where there is no danger of chills, and the young sprouts will soon peep out. They will need no watering until just before they are transplanted, unless the air of your room is very dry. For this reason they will thrive best in the kitchen, where there is plenty of steam. If the soil should crack or look ashen with dryness, a very slight sprinkling of tepid water from a hand broom, or from a watering pot with an extra fine nose, may be given them. Reared in this way they will be strong and stout. While the garden is being put in readiness for them, they should be gradually accustomed to the open air, by setting the boxes out of doors in the sunshine, for an increasing length of time. Begin this at noon; then take an earlier hour as they get harder.

February is none too soon to start these boxes; but if sown in March, they will have made good progress by the middle of May, when, if carefully transplanted and tended, they will pass rapidly on to blossoming. Zinnias, asters, balsams, celosias, clarkias, candytufts, petunias, portulaceas, verbenas and mignonette are greatly hastened by this method. Phlox drummondii, the daturas, salvias, salpiglossis,

schizanthus and the cypress vine (*quamoclit*) should either be sown in a hot-bed and afterward transferred to the garden soil, or else treated in this manner. Tomato, pepper, martynia and egg-plants, and lettuce, cabbage, cucumber and melon plants for the family garden gain much time by being started thus early in these boxes.

The making and management of hot-beds must be deferred till we take up the cultivation of vegetables; but by the use of this simpler method of forcing, they may be dispensed with in all gardens except the very largest, or where mature growth is desired early.

Don't be in a hurry to open the ground; wait patiently till the soil has lost its dark, dull hue, and can be easily crumbled by your fingers. Then you may commence operations with a good prospect before you. This will seldom occur before the second week in May—is frequently later in New England. If you start earlier, the soil, being cold and damp, will cause the seed to decay before germinating, and whatever young plants are set in it, to shrivel and die, or else to get stunted by the sudden check it will give them. And then, too, we are not wholly exempt from frosts till after May comes in; one frosty night may undo the work of many days and destroy many promising young plants.

In the meantime, decide what plants and how many you will have of early growth, and get them started as suggested above; and what for later growth; and be sure your seed is good. Look over your bulbs, and in April set them in moist sawdust or moss, in a moderately warm place; if you have a furnace in the cellar, near that; if not, in the washroom, or in a similar place, for the sprouts to get well started before the garden is made. Then decide what trees, bushes and shrubs you will set, and make arrangements for them. And write on bits of shingle or of thick cardboard the botanical and the familiar names of these, and of your bulbs and annuals; also of the biennials which you mean to plant. These are for tallies, which you will have all ready for use when needed: the wooden ones, with a strong twine to tie them to the trees and bushes; the cards fastened to little stakes, for insertion in the soil near the plants they designate. Have ready, also, a number of stout stakes for the support of dahlias, and smaller ones for gladioluses (*gladioli* is much easier to pronounce and is really the correct word). Decide whether you will have an arbor or a trellis for your vines, and get this made. All these little matters must be attended to beforehand, so that when you commence operations there need be nothing to delay the work.

Having proceeded thus far in your preparations, make a drawing of your plot of ground—just a plain outline of its shape—and divide it into beds, and those of the most desirable shape that its size will admit, and write in the different divisions the names of the plants that you intend to place or to raise there. Make this as accurate as possible—according to a scale of one inch to a yard will be a convenient measurement—and in planning the beds and borders, allow a good generous space for walks.

When all these preliminaries have been finished, gardening time will not be very distant. You can begin to think of your fertilizers, the best of which you will find to be the raking and clearings up of the various rubbish that gathers unaccountably on the grounds about every dwelling. Before using, this is left to decay some months; a little lime is added, and the whole stirred together occasionally.

Tree Planting for Our Western Prairies.

By Samuel Edwards, President Northern Illinois Horticultural Society.

ON my first visit to the prairies, in 1841, this was adopted as a golden text in material things for residents : SCREENS FROM BLEAK WINDS, THE GREAT NEED OF THE PRAIRIES.

A residence here since then has served to increase my faith in this gospel, and, according to my ability, has manifested itself in works. First planting was ten acres black locust, which, for many years gave promise of being very valuable, though the rapid growth at first is soon checked by its profuse crops of seed, and but few varieties of the scores tested do not attain as large size in twenty years. Some ten years since the locust borer appeared in great numbers, and all trees of that variety not cut down were killed outright or rendered worthless. By cutting last of winter, when first attacked by borers, they are valuable for stakes or posts, superior for fuel, and sprout again freely from the root; in my opinion, where land is well stocked with them, they pay, as they grow four or five years vigorously before the borers injure them. I would not advise planting locust, even if Dr. J. A. Warder has recently sold the timber at Cincinnati for Nicholson pavement at \$1,000 per acre.

White willow, set a cutting in 1845, on bank of a soil fence, never received any cultivation, is now over three feet in diameter; when *seasoned* and kept up from the ground, is durable for fencing; for posts or stakes in the ground, is fully up to second rate. Fences are now being made of it, using stakes five and a half feet long, two to three inches in diameter. These are pointed, set early in spring, with crow-bar and maul, in well prepared ground, or heavily mulched, a foot apart, from centre to centre, eighteen inches in the ground. Six inches from the top an inch strip, three inches wide, is secured with tenpenny nails annealed and clinched. If wanted for immediate use, a few Osage orange bush hanging on the stakes ward off cattle and horses. Silver leaved, Balm of Gilead and Lombardy Poplar are nearly worthless as timber trees. Silver-leaved maple is attacked by borers to such an extent as to discourage experienced planters here from extending its culture. Sugar maple grows very slowly, and suffers to some extent from borers.

Cottonwood is planted in many localities for ease of propagation by cuttings and its rapid growth; lumber is used for inside finishing of houses, where no better can be had, and, as fuel for steam, it is valuable. Red elm is a good grower, valuable durable timber. Black walnut, butternut, burr and white oak, red and white ash, hickory and chestnut, in *clay soils* here, are desirable. The tulip tree and magnolia acuminata are among our finest deciduous ornamental trees, and succeed finely.

All hardy evergreens and larches make themselves perfectly at home, as we ought to have known in advance of a trial, for on much of our region of country a large part of the primitive vegetation was the Indian's compass, and other plants having resinous sap. White pine has here made a growth of over four and a half feet, and European larch averaged, for a dozen years, three and a half feet annually, though standing most of the time with tough sod of blue grass over its roots.

The number of our people who are realizing the imperative duty of beginning forest culture in earnest is increasing, as evinced at the recent meetings of State and

Northern Illinois Horticultural Societies, where this important interest was the leading topic for discussion. A bill is now before our Legislature to grant State aid to this branch of industry, and among thinking men the question now is, how to best accomplish the work.

A plan, meeting with general approval by those who have had most experience, is to set the white or Scotch pine twelve feet apart; European larch, for balance of plantation, rows three feet each way or three by four feet; cultivate both ways with horse, two or three years. Long experience in Europe has demonstrated the necessity of close planting to induce rapid, upright growth, and to effect pruning by nature's own method—shading.

Lumber from a single black walnut tree was recently sold in this county for \$100, and a neighbor refused \$60 for a standing oak. What prices may be estimated for those now being planted, when matured, with the lumber famine which seems certain to overtake us ere the world realizes fully our duty to live, not to ourselves only, but to honor God and bless humanity?

The Evergreens, La Moille, Ill.

"Iron Clads."

BY C. ANDREWS.

THE peculiar necessities of the Northwest have been the means of developing a peculiar class of fruits, which on account of their hardy character in tree, have acquired the soubriquet of "iron clads." Of the common apple we have now quite a list, that are classed under this head. The Morello Cherries, the Native Plums, the Wild Crab of the country, the Siberian species of the apple, the grape and the small fruits have each given us varieties, which appear to be proof against the peculiarities of our climate, and which are giving us an abundance of valuable fruit that in many respects more than replaces the tenderer sorts of their class.

Most of the old-time favorites among apples have either been wholly abandoned or have failed to give us paying returns for the trouble of rearing the trees. This is also true to some extent, of the pear and the plum, while the sweet cherries, the peach, apricot and quince have almost entirely disappeared.

Yet in the face of these facts, there are a few fossil theorists in adjoining sections, who stoically regard with disfavor the new acquisitions of the warlike title. They allege that coarseness of texture in the apple and plum, acidity in the cherry and crab, and small size in the Siberians, are objections sufficient to discard them from cultivation. In connection with this the idea has been persistently and somewhat plausibly brought forward, that the public should be educated to grow and consume none but the best fruits. That to plant coarse fruits was little better than pandering to popular prejudice, checking the growth of correct taste and the increase of good fruits. As an argument in favor of true horticultural progress we are willing to give to this idea its full force and value. If we could grow the best fruits in abundance, no new sorts not equally good should be recommended for the reasons above claimed. But since we cannot, there is no reason why we should give up our

hardy fruits because our neighbors can grow better ones, and which, forsooth, they wish to sell us with railroad tariffs and commissions added! We wish to grow our own fruits, for use, for profit, for pleasure, for social and aesthetic culture, fine fruits if we can, coarse ones if we must. Aside from the incidental advantages of fruit-growing, which can scarcely be calculated, the money value of our coarse culinary fruits (admitting that they are nothing more), will be just so much saved with which to buy finer fruits grown beyond our limits, and we have yet to learn that a taste for costly fruits is diminished by a supply of cheap ones. On the contrary, the habit thus formed is the initial measure by which a taste for the best fruits is created.

But the point involved in these objections will bear examination. We do not admit that our hardy fruits are so much inferior to the tenderer sorts as to render them unworthy of cultivation.

Some of our hardy cherries, plums, crabs and Siberian apples, have developed traits—either in healthiness of trees, productiveness, or richness of fruit—that are causing them to be largely sought after even in our best fruit districts. The Early Richmond Cherry is unrivalled as a cooking and canning cherry. The Miner Plum is in size, quality and productiveness, perhaps superior to any of our market varieties. The Soulard Crab is a formidable rival of the quince, for the same purposes, and can be grown with far less cost. The Transcendent, Hislop, Marengo, and other Siberian apples, are richer cooking fruits than any of the common apples, besides furnishing superior fancy dessert fruits. In apples of the common species we have now no hardy sort equal in texture to the best old sorts. We cannot grow greenings or oranges to perfection in our climate. But that forms no reason why we should not grow an abundance of Oldenburgs, Codlings and Crabs. In the meantime we intend to grow all we can grow of better sorts, and improve upon these, and if any benevolent savan will show us some feasible plan by which we can grow greenings or oranges in the latitude of Chicago, we will thankfully “rest his debtor.”

Marengo, Ill.

Pencil Marks by the Way.

BY OCCIDENTALIS.

Greeting!

YOUR volume for 1871 opens splendidly—is brim full of rich and racy matter for the horticulturist,—for everybody who loves rural life and has a taste for the beautiful. O, that its readers could be counted by the million! And not so much for your sake as for theirs. To say nothing of its contents, its beautiful green cover and its illustrations, are good for sore eyes, and ought to be peculiarly attractive to the pent-up denizens of the cities on the one hand, and the inhabitants of the broad prairies on the other. Glad of your ability to write the word SUCCESS!

Porte Crayon's Dilemma.

In turning over its pages, my eye is attracted to Porte Crayon's sketch of the “animalculæ” that are destroying the fruits of West Virginia. The picture is a true one, and will be readily recognized by all horticulturists. They are on the

increase the country over, and are likely to continue so. Their ravages can be checked, however, by a judicious application of "birch bark;" but perhaps the best "philosophy" is to treat them as we do the birds—allow them their share.

Pear Blight.

This disease has been very prevalent the past year throughout the West. The varieties most subject to it have been the Flemish Beauty, Vicar of Winkfield, Louise Bonne de Jersey and Easter Beurre; White Seckel, Ott, Tyson and Stevens' Genesee, have generally escaped.

All theories of cause or cure, or prevention, have most signally failed, so far as my observation goes. Root pruning, the favorite remedy of Dr. Hull, of the *Prairie Farmer*, certainly has not always succeeded; neither has top pruning, as recommended on page 25 of *HORTICULTURIST*. Well cultivated trees, trees that have had only moderate culture, trees grown in sod and grass, trees pruned and trees unpruned, mulched and without mulch, drained and undrained,—have all been more or less affected by the disease. So that, having no theory of my own, I have grown quite distrustful of all theories on the subject.

Grapes in the West.

From the report of the grape committee of the Warsaw (Ill.) Horticultural Society, made in December, 1870, I arrive at the following facts, viz:

The Catawba seems to have been the leading grape this year, setting and perfecting its fruit even better than the Concord. One vineyard of nine hundred vines made thirteen hundred gallons of wine, nearly six quarts to each vine.

Delawares did only tolerably well.

Clintons rotted a good deal in some vineyards.

Concords did well, as they always do; and where the shoots were pinched to two bunches, they were very large.

The Norton's Virginia perfected a very heavy crop where the fruit was grown on spurs.

All of Rogers' Hybrids that have been fruited here, have given good satisfaction. Ives' Seedling also did well.

The Wine Question Discussed.

At the late meeting of the Illinois State Horticultural Society, held at Galesburg, Dr. C. W. Spaulding of St. Louis, read an able and interesting paper on the "Influence of Domestic Wines." He took the position that their use will greatly tend to the lessening of intemperance throughout our country. His positions were at once assailed by the more radical members, and a lively discussion ensued, resulting in the appointment of a committee to investigate and report. That committee has a work before it of no small magnitude, and if it should make a thorough inquiry into the whole question, its report will be received with a great deal of interest. The forthcoming volume of the Society's Transactions, embracing proceedings of the meeting above mentioned, essays and reports from district societies, is expected to be a very valuable one.

Our Greatest Enemy.

The Codling Moth is likely to be, if it has not already become, the most formidable enemy the Western orchardist has to contend with. For several years past they have been largely on the increase in this region, and last year were particularly destructive. Some orchards have lost from fifty to seventy-five per cent. of the crop, and almost all from ten to thirty per cent. Various remedies have been tried with partial success. The bands of straw, tow, rags, or other material, have been found useful; the introduction of fowls into the orchard has checked them somewhat; the turning in of hogs and sheep, to consume the falling fruit, has been practiced with some success, and the frequent washing of the trees with lime, soapsuds, or other alkaline substances, has been beneficial. But, as a rule, they go on increasing. All do not fight them with like energy and skill. While one orchardist is energetically battling against their ravages, others of same neighborhood, are idly looking on. So that, even should some infallible remedy be found, we shall probably fall short of complete success, for want of the united effort of the whole people.

Yet there is reason for hope, that, like the army worm, the Colorado potato bug, the chinch bug, and other enemies, their irruptions will prove to be periodic, and that they will some of these days suddenly disappear. I am sometimes ready to conclude, that with all our theories, and after all that has been said and written in regard to insect life and depredations, our advance upon the enemy's lines has been slow. It is certainly true that the great mass of the people are possessed of very limited knowledge in the matter; and what is more, are totally indifferent. Much of what we know, or think we know, is the merest guess work. The theory of to-day is frequently upset by the experiment or observation of to-morrow. Here and there is a man, or a woman, who, by patient labor and investigation, is acquiring that knowledge which is to benefit the race. All others are only lookers-on—most unheeding and many despising their labors.

This apple moth is not even known to very many of those who are sufferers from its ravages; and its "ways are dark" to many more. A neighbor, in speaking of them, stated that the larva will leave the apple, after packing in the barrel, and eat into and hide in the wood and under the hoops. I laughed at him—supposing that he was confounding this insect with the borers. But another neighbor showed me pieces of the scaly bark from an old apple tree, underneath which, entirely embedded, were numbers of these worms, whither they had sought protection for the winter. He also exhibited portions of pine board, split from a bin in his apple cellar, in which were numbers of them similarly imbedded.

These are new facts to me, I confess, in regard to the habits of these pests; and I give them because I presume there are other readers of the *HORTICULTURIST* as ignorant concerning them as I am.

Another Item on the Bird Question.

Many specimens of apple tree bark, beneath which (as stated above) were the recesses of the apple worm, were perforated with holes, pecked by that naughty bird, the Sapsucker! These holes were made, with an unerring judgment or instinct, *right through to a worm*, which had disappeared. These insects were, in all cases, hid from sight, as the bark stood upon the tree; so that his knowledge of their presence must have been obtained from some other source. This fact goes to show that these birds, in this particular at least, may do man a friendly act. It also brings up that oft-mooted question, "*Do Sapsuckers suck sap?*" "Which the same I am free to maintain" they do not.

Bank of the Mississippi, 1871.

Editorial Notes.

Marketing Fruits.

We pay special attention to this subject, often visiting the markets of this city to see the arrivals of fruit, and see the different methods of packing and shipping. We have the aid of good commission men in giving us suggestions, and we aim to lay all their excellent ideas before the readers of the HORTICULTURIST, in order that they may be well posted. We think that every fruit grower in the country will get more than his money's worth, regularly, who will stick firmly to the HORTICULTURIST, and learn each year what our contributors have to say on the proper way to grow and market fruit and vegetables.

Forest Tree Catalogue.

We have received the wholesale circular of Robert Douglass & Sons, which contains a valuable extract of A. J. Downing's letter in favor of the Larch tree, and also the testimony of Loudon.

The catalogue of Pinney & Lawrence, of Sturgeon Bay, Wis., is very full of notes and practical suggestions as to the best methods of planting, culture, and is a good aid to anyone in making his selection of evergreens or timber trees.

Garden Vegetables.

At the Ohio Horticultural Society Meeting, Urbana, a discussion was held on the best *new vegetables* worthy of trial.

Mr. Elliott commended the Yorkshire Hero pea; and of sweet corn he said Brill's was the earliest, next *Crosby's*; of seven varieties tested, he gave the preference to Brill's.

Mr. Ritz, of Plainville, said the White German Dwarf Wax Bean was a decided acquisition. He had brought from Europe seeds of a new red sugar beet which he would distribute gratuitously to members of the society. He regarded *Crosby's* early sweet corn as the best early of good size.

Mr. Campbell thought the Black Dwarf Wax Bean, the best he had tested; the white might be preferable on account of color.

Col. Richmond spoke of the Brazilian sweet potatoe as an excellent variety; also, the Southern Queen—five specimens exhibited.

Mr. Elliott called attention to the Student Parsnip as the best in flavor; the Hollow Crown next. Several other members commended the Student variety; it does not grow quite as deep or long as the common. He inquired about the Egyptian dark red beet.

Mr. Bateham said he received seeds of this and several other new beets from the Agricultural Department at Washington, the past spring, but from last year's trial he would not plant one of them again; he prefers the Bassano to all others for summer use, and the Long Blood for winter.

Mr. Ritz spoke of the value of sugar beets as winter food for milk cows, making the butter as fine in color as that of summer.

Mr. Elliott commended the Early Horn Carrot as deserving more general cultivation.

Manuring for Currants.

We apprehend that currants do not need manure as much as they need mulching and moisture. A resident in Canada says that the best currants he ever had, produced in great abundance, were obtained in a dry season, by covering the whole surface of the ground with cow manure as a mulch, three inches thick. On looking under, the soil was always moist. Heavy pruning has to follow the luxuriant growth thus produced.

Raspberries.

Dr. Hexamer stated at the New York Farmers' Club, that the excellence of the Mammoth Cluster consists in its holding the good size of its berries to the end

the Ellisdale he regarded as earliest, the Davison's Thornless three days later; Doolittle and Seneca ten days later still. These are among the best out of many sorts.

Best Temperature for Window Plants.

The *Gardener's Monthly* says that a temperature of 55 deg. will give more flowers to the common window plant than a higher temperature, and names such old fashioned sorts as Mignonette, Sweet Alyssum, Zonale Geraniums, Cupheas, Fuchsias, Violets, Roses, Chinese Primrose, &c., as among the best for this purpose.

Pear Trees for the West.

Parker Earle, at the last meeting of the Illinois State Horticultural Society, thinks that the Flemish Beauty has proved the most generally hardy in the north, and although it blights badly, that it and the Bartlett have given the greatest satisfaction in crops; but the Flemish Beauty entirely fails in health of foliage in most places in the south, and it is rare to find a crop perfectly ripened on any tree; still it often bears immense crops, which in some cases have yielded more profit to the tree, than any other sort, and it is widely, if not largely, planted. The Bartlett is not reliably hardy either north or south, but its great merits of tree and fruit overbalance all its faults, and it is pre-eminently the pear of the State as of the whole country. The Howell is better known in the south than in the north; not often seen north of Alton, but it is well worthy of wide planting, for while it may fail oftener than some others from too early blooming, yet its vigorous and hardy habit as a tree, with the superb nature of its fruit, should place it in every list.

The Belle Lucrative is extensively planted and apparently well adapted to the climate everywhere. It is one of our most prolific bearers, and has few equals in quality; and it is one of the three or four best in respect to health of foliage; it is one of the two he would prefer on quince stock, the other being Duchess d' Angouleme. This last kind possesses great value for market under favorable circumstances; finds it everywhere regarded as one of the healthiest of trees. It rarely blights in the worst soils; it bears young and is our largest pear.

Best Tiles to Use for Draining an Orchard.

A writer in the *Country Gentleman* says: "My experience with two-inch sole tile, in the orchard, has been that the fibrous roots of the trees, within three years would enter the joints and fill and clog the bore so completely as to defeat the whole object contemplated. In examining tile that were three feet below the surface, I pulled out sections of matter composed mainly of fibrous roots, which perfectly barred the water, and which so startled 'Pat,' as to cause him to drop his spade and exclaim, 'By my soul! What kind of a snake is that, and how came his hide off?' On the whole, I have come to the conclusion that the least objectionable kind of drain for an orchard of bearing trees, which fill the entire ground with roots, is the old-fashioned blind drain, well secured at the top by small stones and such other material as will prevent the earth over the drain from breaking through."

The Rural Messenger.

This is a new agricultural and rural paper, published weekly at Petersburg, Va., at \$2 per annum. It is printed in excellent taste, edited with better care than most Southern papers, and the handsomest of any of its kind south of this city.

Conover's Colossal Asparagus.

Wm. Parry, of Cinnaminson, N. J., who has experimented with it for two years, says: "Previous to growing the Colossal, we doubted there being any variety better than the one generally cultivated, and thought the *mammoth principle* claimed, was due to manure and treatment; but since fully testing the Colossal here, we are so well convinced of its superiority over all other kinds, that we shall not only plant it exclusively ourselves but take pleasure in recommending it to others, for it is

unrivalled in point of size, quality and productiveness, and it is a loss to occupy the ground with an inferior or common article, when better can now be so easily obtained.

Immense Sale.

The seed catalogues of the Landreths' of Philadelphia, were printed last year in the English, German, and Swedish languages, and over 500,000 copies of the English edition were called for and distributed.

The National Farmer.

We have received copies of this new agricultural weekly, published by Brincklee & Marat, Philadelphia, Pa. It is given free to all subscribers to the *Gardener's Monthly*.

To Preserve Bouquets.

To preserve a bouquet, a correspondent of the *Western Rural* says :

"Sprinkle it lightly with fresh water, and put it in a vase containing soap-suds. Each morning take the bouquet out of the suds, and lay it sideways in clean water ; keep it there a minute or two, then take it out, and sprinkle the flowers lightly by the hand with water. Replace it in the suds, and it will bloom as freshly as when first gathered. Change the suds every three or four days. This method will keep a bouquet bright and beautiful for at least a month."

Grasses for Lawns.

We are requested to call attention to the new catalogues of J. M. Thorburn & Co., page 27, which contains a very complete and descriptive list of grasses ; and information much needed by parties who are laying out new places, and improving pastures, lawns and meadow lands.

A Compliment.

We are indebted to the *Rural Messenger* for the following handsome expression of good will for THE HORTICULTURIST:

"THE HORTICULTURIST.—Among the journals specially devoted to the promotion of rural art and taste, the *Horticulturist* occupies a prominent position. Its labors have been extended through nearly a quarter of a century, having been founded by the late A. J. Downing in 1846—a name illustrious in the annals of American Horticulture. After his death it was continued for a time by his brother, Chas. Downing, and now the mantle is worthily worn by Henry T. Williams, who serves up monthly to his subscribers a journal of rare merit and of varied contents. Mr. Williams has large experience, is an elegant writer, and independent without of the influence often sought to bear upon a popular editor by interested parties. Keeping up to the spirit of the age, and containing a fund of valuable information on all the subjects coming within its scope, we cordially recommend the *Horticulturist* to all interested in surrounding their homesteads with the comforts and elegancies of this age of progress and refinement."

An Unfortunate Calamity.

We hear with great regret of the loss by fire of the residence of M. B. Bateham, Painesville, O. Mr. Bateham came very near losing his life by the falling through of a floor, while engaged in his efforts to save as much of his property as possible from the flames. He had but just opportunity to jump through the window. A large collection of agricultural and horticultural books, papers and manuscript, the result of thirty years collection, are a total loss, besides his furniture and other personal property.

Pacific Rural Press.

This is a new weekly in the interests of rural pursuits on the Pacific coast, started by Dewey & Co., of San Francisco, also publishers of the *Scientific Press*. It is a pleasant paper, very agreeably edited, and gives much the best and most practical

information on Pacific coast agriculture of any Journal we have yet seen. It devotes considerable space to the Sugar Beet culture, and the Eucalyptus as a timber tree for profit.

The Cost and Profits of Grape Culture.

Hearth and Home, in a late issue, gives an account of the cost of growing and selling the production of grapes from 273-100 acres of vineyard. The cultivator puts down the cost of cultivation from the time of gathering the grapes the previous autumn to the commencement of picking them this year, at \$233.51. This includes cultivating, hoeing and pruning, and 800 pounds of ammoniated superphosphate of lime applied to parts of the vineyard. The cost of picking, packing, and marketing, including freight and commissions and wear and tear of crates, he gives at \$227.88, making total cost for the year \$461.39. His crop of grapes was 14,500 lbs., for which he received \$1,096.76, so that he received \$635.37 profits. In this he does not make any charge for rent of land nor taxes, nor for taking the grapes from the vineyard to the railway station. His vineyard contained 2,000 vines in bearing and 250 younger vines. They are mostly Concords, a few, about one-tenth, Delawares, and some Hartford Prolific, Diana, &c. His first Delawares sold at 20c. per pound; his first Concords at 10c.; his Delawares falling to 10c. and his Concords to 6c. before the close of the season. He had about 12,000 pounds of Concords and 1,200 pounds of Delawares, the remainder being divided by some eight or nine other sorts. By this it would seem that it cost him about 3 1-5 cents to grow and market a pound of grapes; that the average gross receipts were about 7 $\frac{1}{2}$ cents per pound, and the net proceeds about 4 $\frac{1}{2}$ cents per pound; or \$232 per acre.

These grapes were marketed in the city of New York.

Cranberry Culture.

The cranberry interests of New Jersey are now far ahead of her strawberry culture, and on a decidedly safer footing. The crop of one county alone, (Ocean Co.) last year was 25,000 bushels, valued at \$100,000, while the entire production of the State is near 40,000 bushels.

Growers have to contend with two enemies of the cranberry, viz: two kinds of worms and grasshoppers; a flock of turkeys will kill the latter when small, and timely flooding will prevent the ravages of the former.

The Eumelan Grape.

At a recent meeting of the American Institute Farmer's Club, a correspondent having asked for an expression of opinion about the Eumelan grape, Mr. T. O. Paine, of East Bridgewater, Massachusetts, said:

"My Eumelan grapes began to color about the middle of August, and were good to eat on September 10th, and even before that time they would have been called ripe by many. They grew better all the month. I set their time of ripening before the Delaware, Isabella, and Allen's Hybrid. With me the Hartford Prolific got its greatest goodness a few days before the Eumelan. But the Hartfords grew on an old vine, while the Eumelans grew on a vine only three years old, and I doubt if the Hartfords would be any earlier upon a vine of the same age. The Hartford Prolific ceased to grow better, and began to flatten in taste and to drop its berries, while the Eumelan kept on improving. My Eumelan vine (three years old), set seventy-nine clusters.

"I picked off sixty-five, leaving but fourteen to ripen, which I thought sufficient for a vine of that age, but the vine grew too vigorously, and could have ripened twenty or twenty-five bunches with advantage. The vine had not work enough to do. In quality nothing is to be said against the Eumelan, and everything for it. It is the only black grape I have seen that is worthy of being put on a plate with the Iona Delaware and Allen's Hybrid. A friend of mine has twenty Eumelans growing,

now two years old, as healthy and handsome vines as I have ever seen. I consider the greatest danger the Eunelan is likely to suffer from, is over-bearing, which grape-growers will consider a good fault."

Hardy Rhododendrons.

At a late meeting of the West New York Horticultural Society, the information was elicited that the Rhododendron Catawbiense was the only sort that proved perfectly hardy. In the latitude of New York, however, the Messrs. Parsons of Flushing, will be glad to show hundreds of varieties, perfectly hardy here, never as yet requiring any protection, or receiving any injury.

Blackberries Need Cultivation.

We think some nurserymen are responsible for helping to spread the erroneous opinion that blackberries will grow any where, and will thrive well on poor soil without much attention. We find this not the case. Generous treatment with the blackberry pays as well as with the strawberry; plenty of manure and good cultivation will surely result in big berries and big crops, but if the manure is wanting and the soil is poor, we would under no manner of means neglect the cultivation once at least each week with the cultivator. Mr. A. M. Purdy, of the *Small Fruit Recorder*, gives an account of his first experiment with blackberries. Twenty-five years ago he bought at South Bend, Ind., a piece of land that was said to be too poor to grow white beans. The blackberries planted on it made a moderate growth, but subsequently bore enormous crops, being literally loaded to the ground. A richer piece of land was also planted, the bushes grew rank, but bore moderately, and winter killed badly. Blackberry bushes, like the large growing American grapes, do not want rich soil. But the most important part of the preceding statement must not be omitted—the poor ground was thoroughly cultivated, or, in the words of the narrator, he "gave it a regular commotion that season with hoe and cultivator."

Violets as Window Plants.

"The Violet," says a correspondent of the *Gardener's Monthly*, "has ever been one of my favorite window flowers. In former years, when brought into the house from the cold pits to flower, they were placed at once in the sitting-room window, where we had a regular temperature of about sixty degrees; but the stalks were always slender, and the flowers rather small. Thinking it was too hot, I kept them other years in a cooler room, where the heat might perhaps not range over between 45 and 55, and the result has been much healthier looking plants and finer foliage. Besides this, they were not much behind what I have had in warmer places in other years. I am sure they want very little heat to do well. Another fact: I have learned that a manure water made of rotten wood is a capital fertilizer for them. Once I thought, as shady places were the natural places where violets grow, rotten wood would be a good thing in the soil, but they sometimes get sick in it; but the liquid of steeped wood does not seem to have this effect; on the other hand, a lively green is the result. We never water them except when they show signs of drying; in our room this is about twice a week. This may not be new, but it is true."

Big Apples.

An Oregon visitor at the Farmers' Club, New York city, lately stated in a meeting of that august body, that he had gathered a basket full of apples from one short limb of an apple tree in Oregon, the united weight of the whole, exclusive of the basket, being twenty-four pounds. Upon counting them he found but twelve, the average weight being but two pounds each, and he left still larger on the tree. Kansas, where are thy laurels now!

The Western Pomologist.

This is now changed from a quarto to an octavo, and price increased from \$1 to \$1.50 per year. The January number contains some very excellent contributions from distinguished horticulturists.

Colored Glass for Hot Beds, Forcing Houses and Conservatories.

One of the most successful cold graperies near Philadelphia, is said to have every third section of lights made entirely of blue glass. It is an important fact worthy of the special notice of our florists, gardeners and amateur horticulturists, that colored glass does affect very materially the growth of vegetation beneath. More than ten years ago, Mr. R. Hunt, Secretary of the Royal Polytechnic Society, England, said: "The light which permeates colored glass partakes to some considerable extent of the character of the ray which corresponds with the glass in color; thus blue glass admits the chemical rays to the exclusion, or nearly so, of all others; yellow glass admits only the formation of the luminous rays, while red glass cuts off all but the heating rays, which pass it freely. This affords us a very easy method of growing plants under the influence of any particular light which may be desired. The fact to which I wish to call particular attention is, that the yellow and red rays are destructive to germination, whereas under the influence of violet, indigo, or blue lights, the process is quickened in a most extraordinary manner; indeed, it will be found that at any period during the early life of a plant, its growth may be checked by exposing it to the action of red or yellow light."

Keeping House Plants Clean.

The London *Cottage Gardener* relates an experiment showing the advantage of keeping the leaves of plants free from dust. Two orange trees, weighing respectively eighteen and twenty ounces, were allowed to vegetate without their leaves being cleaned for a year; and two others, weighing respectively nineteen and twenty and one-half ounces, had their leaves sponged with tepid water once a week. The first two increased in weight less than half an ounce each, while of the two latter, one had increased two and the other nearly three ounces. Except the cleaning, the plants were similarly treated.

Vicar of Winkfield Pear.

Cultivators say that the quality of this fruit improves yearly with age. One writer says, "when the tree was young, the fruit was poor, and not considered of any value for cooking, but as it grew older, the fruit improved, and was now carefully saved for winter eating."

Please Notice the Advertisements.

Our readers are indebted to our extensive advertising patronage for the many excellent illustrations we are giving the public this year. We spend yearly upon the Magazine \$2,000 more than we receive from subscriptions, and this sum has to be provided for from the advertising receipts. Hence we wish all readers who are interested in our well-doing, to please notice the advertisements, and, if writing, to mention the name of THE HORTICULTURIST as the Journal where they noticed them. In this way our patrons will feel encouraged to greater liberality and constancy, while our readers will get increased benefit in more illustrations and better matter.

It is customary for some to look upon the advertising or business part of the paper as so much waste matter, and the reader deprived of so much space that ought to be filled with reading matter. They do not reflect that more than one-half the papers of to-day owe their success directly to the help which their advertising patronage gives them, and if that was taken away many a worthy journal would be compelled to suspend. So we say it is the duty of our readers, who wish to see excellent journals devoted to special subjects well maintained, to encourage the advertisers and aid the Publisher as far as they can in giving due credit for his efforts.

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EDITED BY
HENRY T. WILLIAMS.

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Profits of Small Fruits.

*An Essay delivered before the Annual Meeting of the Pennsylvania Fruit Growers' Society,
at Chambersburg, Jan. 18, 1871.*

BY WM. PARRY, OF CINNAMINSON, N. J.

SMALL fruits, not small in value, but so-called because they are found growing on small bushes, vines and plants, were formerly considered as properly belonging to the garden, but now are grown in such large quantities as to require broad acres for their cultivation, and on some farms more land is devoted to their culture than to any other crop.

'Strawberries.'

The first fruits of the season, and the most healthful and delicious in cultivation, are strawberries, which are easily grown, and when sent to market in good order command fair prices: the varieties of which have become so numerous that it is very difficult for one who has had no experience, to determine which to plant, by merely reading the descriptions of those offered for sale. After testing over one hundred kinds, I have come to the conclusion that for *profit*, a very few varieties are sufficient for any one section, so as to keep up a succession from the earliest to the latest ripening. Some varieties do remarkably well in some locations, with certain treatment, when in other sections they are of but little value. The high reputation that some strawberries have obtained, where the soil, climate and surrounding circumstances were all congenial, is a great recommendation in selling plants, but it does not follow that they will succeed when tried in different circumstances, which may suit some other varieties better.

What Kinds to Plant.—There is probably no variety that has yielded more profit to the growers generally than Wilson's Albany. We have grown over 200 bushels per acre of them, or six thousand and four hundred quarts, which, sold at an average

of ten cents per quart, gave over six hundred dollars. Although not as pleasant to the taste as some others, they are good size, firm berries, carry well, and look well in market, and consequently sell well.

We should bear in mind that for *profit* the fruits which yield well and look well are the most profitable to grow,—that the fine qualities and rich flavor of fruits are but secondary considerations with salesmen who dispose of the most fruits in large quantities. If the fruit looks well on the stall, it will have a ready sale, but not otherwise.

There are a few others that have generally given good returns with us, such as Downer's Prolific, Charles Downing and Kentucky, all originated by J. S. Downer, of Kentucky. Perhaps no other person has succeeded so well in raising seedling strawberries, or produced a trio of such value as these three, ripening with the earliest and continuing through the season till after most other strawberries are gone. Three others of great value are the Green Prolific, Agriculturist and No. 30, all grown by Seth Boyden, of New Jersey. They are strong, vigorous growers, hardy and productive, and the last two named the largest berries we grow; and from their monstrous size and attractive appearance, command the highest price, and brought one dollar per quart in market the past summer, when common strawberries were plenty and cheap.

In growing fruits generally for *profit*, it is not necessary to cultivate many varieties, but rather be confined to a few of the best that will give a succession of fruit throughout the season. I have seen plantations of from eighty to one hundred acres of strawberries on single farms, where there were not a half dozen varieties in cultivation,—the kinds best adapted to each location, paying the largest *profit*. One of the proprietors informed me that he had received a check from his commission salesman of ten thousand dollars at one time, on account of his strawberries.

Time to Plant.—Strawberries should always be planted early in spring, the sooner the better after the frost leaves the ground, while it is cool and moist. Perhaps there is no greater error in strawberry culture than planting in summer time, after taking a crop of vegetables from the ground, in hope of getting a crop of berries the next summer. The ground being warm and dry, most of the plants will die, and the few that survive will make but a feeble growth, and it will require more care and labor, the next spring, to fill up vacancies and get a good stand of plants, than to commence anew on a separate piece of land that had been freshly ploughed on purpose to receive them.

Soil and Preparation.—Almost any ground that will bring good corn or wheat, and is well drained, either naturally or artificially, is good for strawberries. Corn that has been well tilled the year previous, is an excellent preparation for them, as grass and weeds are less troublesome after corn than most other crops. The ground should be well ploughed and harrowed smooth, and marked out with small plough the desired distance, according to the variety and mode of culture. A very common mode is to open the furrows five feet apart, and spread manure or compost along them, and plant early corn, one grain in a place, fifteen inches apart, and a strawberry plant alternately between the corn. In that way the strawberries get but

little culture, except while dressing the corn, which being cut for market early, usually brings from fifty to seventy-five dollars per acre; and the strawberries will spread sufficiently to form good beds for fruiting the next year.

Another plan that has given good satisfaction with me, is to open furrows two and a-half feet apart, and spread a preparation of equal parts of marl, ashes and ground bone along the furrows, after it has been mixed and incorporated together for ten days or two weeks, until the heat generated by the action of the ashes and marl has mellowed and softened the bone, so that the particles will crumble like chalk when rubbed between the thumb and fingers. Using one ton of the ground bone and the same quantity each of ashes and marl on five acres, will give a vigorous growth of dark green foliage to the strawberries.

Cultivation.—The ground being frequently stirred with horse and cultivator, close to the rows, leaves but a small portion of the ridge between the plants to be loosened with the hoe. As the runners extend and widen the beds, the cultivator is made narrower; and care being taken to pass along the alleys every time in the same direction, drawing the runners always in one way, will leave them more even and regular than if drawn both ways, by going back and forth in the same alley. The plants then form ridges about eighteen inches wide, with alleys one foot wide between them.

This plan is more certain and reliable than keeping the plants in hills and cutting off the runners. There is less hand labor, most of the cultivation being done by horse-power. And if some of the plants should be destroyed by grubs or insects, there will be enough left to produce a good crop of fruit.

Mulching.—At the approach of cold weather, or beginning of winter, give them a good coat of stable manure, spread evenly all over the plants. If the rows are two and a-half feet apart, a horse and each cart-wheel will follow along an alley without injuring the plants. The covering with manure is of great importance, as it protects the buds and embryo fruit from severe freezing, and prevents the roots from lifting and heaving out as the frost leaves the ground.

The rains soaking the strength of the manure into the soil, gives food and nourishment to the roots. The straw and coarser materials being bleached and beaten close to the ground by the winter snow and rain, does not prevent the young growth from coming through in the spring, but serves to keep the fruit clean in the summer.

How many Baskets are Wanted.—Crates and baskets should be ordered in time to be on hand before commencing to gather the fruit. Quarts and pints are the most suitable sizes. It will be necessary to procure at least three times as many as will be needed at any one time for picking, so as to allow for one set to be in market while the second lot is going, and a third in the patch being filled. Allowing the crop to yield 2,500 quarts, or seventy-eight bushels per acre, to be gathered at six pickings of about four hundred quarts each time, it will require twelve hundred quart baskets, which, with crates of the best make, may be rated at about fifty dollars per annum. But as the same baskets and crates will answer for raspberries and blackberries, and with proper care will last for several years, ten dollars per acre is sufficient to charge each crop for the use of baskets and crates.

What Kind of Baskets.—There are now so many varieties of baskets and boxes

made, that almost every grower can have his choice ; but to carry fruit in the best condition, they should be made of thin splints, light, strong, and well ventilated, to allow a free circulation of air to carry off the excess of heat and moisture, as the berries are not always dry and cool when put up for shipping. The splints should be so strong that the bottom tier will bear the weight of all the berries, baskets and divisions above them, or the fruit will be mashed as the sides yield to the pressure of the upper tiers of berries.

Having used and tested many kinds within the last quarter of a century, I prefer the *Beecher veneer baskets* to any others with which I am acquainted. They possess all the properties requisite for arranging fruit in good condition ; are light, strong, and durable, lasting several years with proper care.

Picking.—There is no part of the business that requires closer attention than gathering and preparing the fruit for market. It should be assorted as picked, the prime berries put together, and the cullens kept separate. The baskets should be well filled and rounded up—the berries placed close and even, with stems down, so that when in the crates the divisions above will press gently upon and keep them steady in place.

As the fruit grower is “no respecter of persons,” but in the busy season employs men, women and children of all ages and denominations, whose object is to make the most they can, and as they are usually paid by the quart, every berry picked, whether good, bad or indifferent, will help to fill up the measure, and would be a loss to them if not put in the basket ; so that it requires some moral courage for the pickers themselves to put the fruit up in the best condition for sale. To assist in this matter, we provide them with baskets of a different size, in which to put the imperfect and faulty berries, so they will measure as much as if all were mixed together.

As the berries are brought in for packing, ten or twelve baskets on a tray, they are carefully examined, and at least one emptied in the presence of the pickers ; if they turn out all right, they are paid in white tickets,—but if small, green and faulty berries are mixed among the prime ones, or they are not put up as directed, a blue ticket of less value is given, which has a salutary effect, as it is mortifying for them to receive a blue ticket, which is the signal of bad work, in the presence of others.

The system works beautifully ; it is a constant stimulant for right doing. It don’t hurt the best of hands to look after them, but is rather gratifying for them to know that their employers are aware of and appreciate their worth. And work that is not well done does not receive full pay.

Yield and Profit.—There are so many circumstances connected with strawberry growing, such as varieties, soil, climate, location, markets, and the skill and management of the grower, that the results of a few cases cannot be relied on as a general rule. The premium crop in Burlington Co., N. J., was at the rate of 263 bushels per acre, yielding a profit of upwards of \$1,000. But one-third that amount would be nearer our general average.

For ten years past our whole crops have averaged about 2,500 quarts per acre, and averaged twelve cents per quart in market—giving the following results :

2,500 quarts, at 12 cents.....	\$300
Commission, 10 per cent	\$30
Picking, at 2 cents.....	50
Interest on land	10
Manure.....	25
Use of baskets	10
Cultivation, etc.....	30
Net profits.....	145
	=====
	\$300
	=====

(TO BE CONTINUED.)

The Adirondack Grape.

BY JOHN W. BAILEY, PLATTSBURGH, N. Y.

I OBSERVED your remarks in the January number of THE HORTICULTURIST in regard to the Adirondack. I am fully aware that it has proved variable in different localities. With me it takes the lead, and my vineyards of this fine grape have been much admired by all who have visited my grounds when the fruit was ripe. It is early, prolific and delicious ; as free from disease as any variety I cultivate, and the most profitable grape I grow, selling always for the highest price. Last fall I had a visit from Charles Downing, Esq., who saw the fruit ripe on my vines, and he freely expressed his approval of its merits for this section.

Messrs. Ellwanger & Barry, who grow this variety in their vineyards, are well known as among the leading pomologists of this country ; they say of Adirondack—“ One of the best of the newer grapes ; bunch, large ; berry, large, tender and sweet ; quite as early as Hartford Prolific ; vine similar in wood and foliage to Isabella, but less vigorous.”

Last fall we were invited to exhibit our fruit at the grape fair of Messrs. B. K. Bliss & Son. I sent samples of Adirondack ; they arrived there one day too late. Messrs. B., in acknowledging the receipt of them, said, “ we consider it one of the three best on the table.” This is no small recommendation when we consider that there were over 120 varieties on exhibition.

In a late number of the *Boston Journal of Chemistry*, I find the following : “ Among the new varieties of grapes, the Adirondack is worthy of praise. We have fruited it three consecutive seasons, and it is the earliest and sweetest of all the varieties. It has also proved to be a good bearer, hardy, and the fruit holds well on to the stem. It is a magnificent grape for wine, affording a variety resembling true Malaga. It is so exceeding saccharine that it needs to be closely watched and intelligently handled in manipulating for wine.”

Dr. James B. Bell, of Augusta, Me., writes me under date of February 27, 1870, as follows : “ I believe the Adirondack to be a great success here. * * * I have

never tasted so fine a fruit grown in the open air, either here or in Middle or Northern Europe. I have sent cuttings to Vienna (Austria) this winter."

It is needless to accumulate evidence; I could furnish it abundantly from this locality, Vermont, Canada and elsewhere.

The "Union Village" is a grape of splendid appearance, and could I grow it successfully, I would give it room; but it is too late. The Isabella is too late; it seldom fully colors with us, and is never sweet.

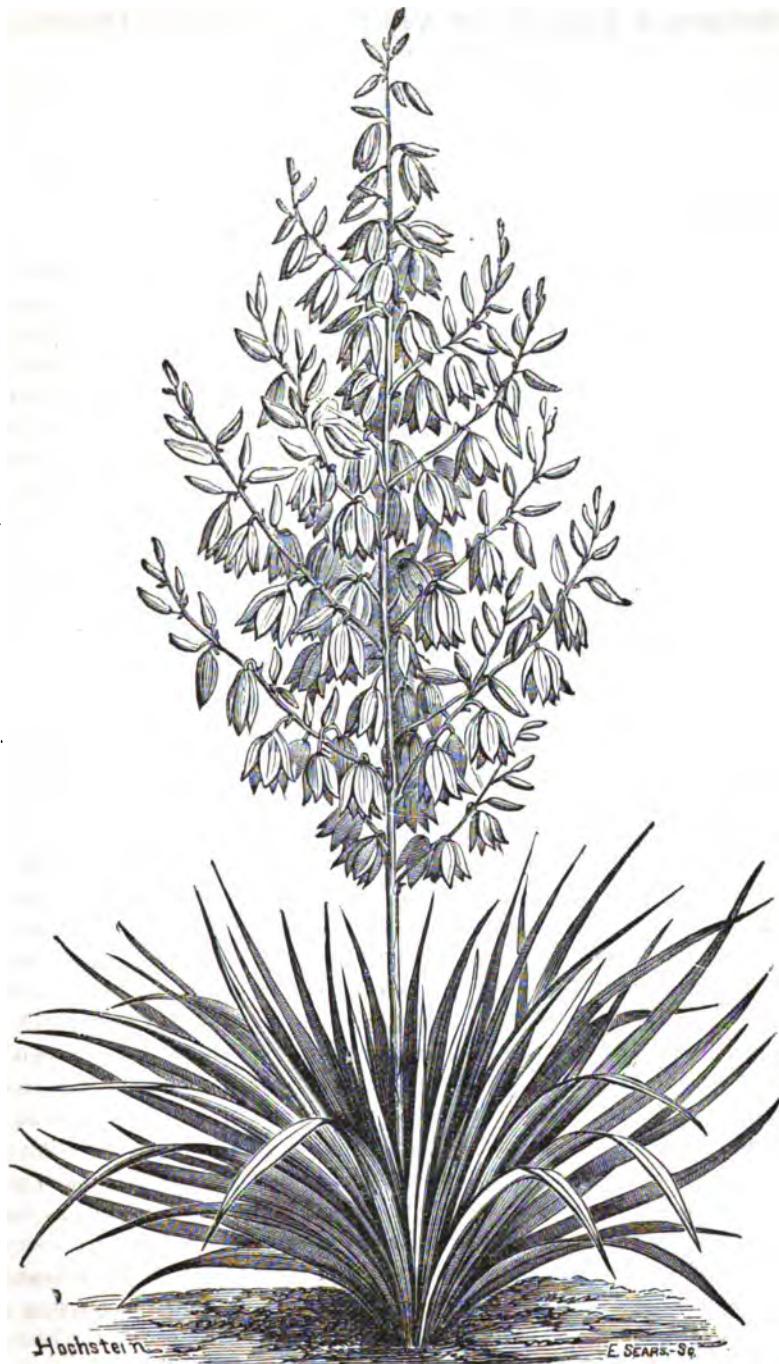
If THE HORTICULTURIST were designed to circulate only in the immediate vicinity of New York, its opinion would do very well in regard to Scuppernong and Adirondack, for I do not suppose that the former would ripen its fruit or stand the climate of New York; it certainly will not here. Having spent some years at the South, I well know the value of this variety in Southern Virginia and North Carolina, and I believe that judicious experiments in hybridizing with this for the parent vine, will produce the most valuable varieties for those States. At present it stands their hot summers and drouth without the slightest injury; never exhibits the least sign of mildew, and bears most abundantly without much trouble, and is used extensively in the manufacture of wine. I think that the fruit growers of North Carolina will hardly care to throw by the Scuppernong grape. I know that thousands of the vines are annually planted all over the South, and will continue to be, until some new and improved variety of this species is introduced, and fortunate will be the man who finds it.

Yuccas as Ornamental Plants in the Garden and Lawn.

THIS class of flowering plants is, as yet, a great novelty in all our gardens. We doubt if over one in a thousand who keep flower gardens, have yet seen or thought of growing one of these charming, yet exquisite flowering plants. The *Yucca filamentosa* is one of the best for general use. Fuller describes it as follows: "Leaves evergreen, long and rather stiff, spreading occasionally; slightly recurved. Flowers usually pure white, but in some specimens are slightly tinged with greenish yellow. They also vary in size from one to two inches long, and are nearly as broad. Flower stem four to eight feet high, branching, carrying several hundred blooms, each of which is succeeded by a large, six-celled pod, filled with smooth, flat, dark colored seeds. After the plant blooms, the centre of the crown dies, numerous suckers spring up from below, and these will bloom as soon as they are large and strong enough, which is usually in two or three years; but if taken off and planted separately, they will bloom the second season. The seeds grow very readily if planted in autumn or early spring, and transplanted at the end of the first season. Seedlings usually bloom when three years old.

"Although this species is a native of the Southern States, it is quite hardy even in the Northern border States; and we have known it to stand a temperature of 24° below zero, uninjured."

The plants are very cheap, being sold by most florists as low as fifty cents each.



Yucca Filamentosa.

Subtropicals Especially Valuable for their Contrast of Leaf and Form.

BY ROBERT MORRIS COPELAND.

HOW country places ought to be laid out, or whether it is best for men to do their own work, or employ artistic advice to guide their efforts, seems at first rather aside from the questions which suggest themselves to the mind when we think of the uses and values of subtropicals; but it is not because unless we agree upon some standard of fitness and effect, it is not to be expected that real merit of any kind of planting can be understood; and if men are to be influenced in their use of trees or plants by ignorant guides, they can hardly hope to rise to any supreme excellence. The gardeners who make most country places are especially fitted to propagate and develope Subtropical plants; their education has generally been got in greenhouses and conservatories, and they would like always to induce their employers to build glass houses for their use, as from them they would be able to send out flowers and plants in abundance; but what to do with them after they are grown, they know very imperfectly, except so far as they may follow in the traditions of their teachers. Here is just where they are blind guides, for hitherto all the best decorative plants have been believed useless for summer, and only desirable for winter culture, and as inmates of greenhouses and conservatories. I have briefly shown how a stock may be got up, and how they may be made to live through the cold weather. How to use them in the summer will depend on the size and character of the grounds to be ornamented, and their situation. If one lives in the country, surrounded by many acres, with wide landscape views, pleasant drives—owning, as it were, all the surrounding country—he needs but little local decoration to give variety, for certainly the family pleasure will come more from riding, walking, boating and vigorous pursuits, than from the plants which ornament the lawn and flower garden. In such places we should seek to produce strong effects and bold contrasts, and use hardy rather than tender plants. At the same time to eschew all but the hardy plants, to despise the color and fragrance of flowers, to confine our planting to the trees and shrubs, which will live neglected; to make the home grounds as blank of interest as any piece of grass land moderately diversified with trees and shrubs can be, is a waste of opportunity, and cuts off part of the pleasure which the country may properly afford. There should be as much culture, color, fragrance, beautiful and picturesque form, as will make the house a marked contrast to the surrounding country, and thus keep up a healthy activity of mind, and give one, when at home, something to think about, look at and enjoy. Starting from the house, the display of flowers, flowering shrubs, rustic ornaments, shaven grass, should lead the eye insensibly to the rough pasture, the rocky and wooded hills, the broken and ferny banks of streams, and as we move from the cultivated to the wilder parts of a place, or to the adjoining country, such varied forms of vegetation might be introduced as would constantly stimulate the interest in the home demesne. Where we propose to introduce uncommon or picturesque plants in the wilder parts of the grounds, we should, nearer the house, have some of the purely subtropical forms, which would not only contrast with the flowers,

grass and shrubs, but which would give tone to the eye, and prepare it to welcome the hardy, coarser perennials, which have been selected to create effects at a distance.

To define exactly where and how to use the plants whose foliage is remarkable for form or color, would require a great deal of time, and the necessity of putting many assumed cases or conditions, which could rarely be applied in detail to any man's wants. These plants, like trees and shrubs, give the best effect when used exactly right; but how to use them so as to secure their full benefit, requires a skill on the part of the planter only to be got from practice, and one wishing to use them should make a collection and try them singly, and in combinations, until he feels as sure of their peculiar effect as of roses, rhododendrons, or of any kind of shrub or tree. A group of cannas, of one or several colors of leaf or flowers, is beautiful in a circular bed in the lawn, or rising out of a group of mixed shrubbery, relieved by evergreens or blended with dahlias, hollyhocks, or other tall perennials. Caladium esculentum is better as a fringe to a bed of cannas, or on the outside of any group, because their large leaves are set at such an angle to the stem that they turn down and seem like shields protecting the interior of the group. Pampas grass and many of the other grasses are most pleasing in single tufts in the curve of a walk, or at some point where paths meet. These grasses are more fully developed by a back ground of dark, tall, growing plants. Coarse leaved plants, like the Castor-oil bean Ricinus, should be either in the centre of a group, or so combined with tall perennials and shrubs, that the rather stiff and awkward stems and leaf stalks shall be concealed; and yet the color of the stem and foot stalk are in some species the principal merit.

The Solanums and Wiegandias offer a great variety of large leaves and stately plants. As their lower leaves are large, they should stand alone, or at the outside and points of groups. The colored leaved Caladiums are more tender than the Esculentum, and are rare and at present too costly for general use, which would test their endurance of sun and wind. Until the stock is large we should use them singly in places where they would be sheltered from the wind and from the direct rays of the sun, although full light would be important for their development. A nearly allied family, the Marantas, are very rich in color, and they have hitherto been too scarce to give them a full trial, and should be tested like the colored Caladiums. Many of the Yuccas are hardy and beautiful both in leaf and blossom. The Yucca filamentosa has a short blossoming period, but is always picturesque for its leaves, and may be used to emphasize any point of a group or a mass of rocks, or rock work, and is fine as a single, lawn, or garden plant. Other Yuccas, such as the Gloriosa filamentosa, Variegata recurva, Recurva pendula, etc., are tender in the latitude of Boston, but will endure the wind and sun, and like Yucca filamentosa, should be used at particular points where it is desirable to get strong contrasts of form.

The Tree Ferns are tender but very beautiful and uncommon, so that they must be used sparingly; but alone, or combined with our hardy ferns, are the best ornamental foliage plants. I would urge the amateur to familiarize himself with our native ferns first, and use them freely, and then combine the tender kinds with them. The number of species of native ferns is small considering the great number of individuals, but they vary a great deal in size, shape and habit. From Woodsia ilvensis, a

small fern two to six inches high, which seams the ledges with its green fronds, and is easily transplanted, to *Struthiopteris germanica*, the Ostrich fern, which, six feet high, is a long reach in size; and the contrast in form between the Ostrich fern and the Maiden Hair is as great as between any of the ferns of the conservatory. As all plants thrive best when in their natural circumstances and habitation, we should make plantations of ferns in shaded and moist places, and generally where they will be sheltered from high winds. The Evergreen ferns especially are rarely found in the open country; they require some protection and plenty of moisture. When the beauties of the fern fronds are fully recognized, many persons will be found to make them a specialty, and though deficient in blossoms, the delicacy of their fronds, and the great variety they offer in size and shape, the rich green and bronze of their foliage, and their persistence when once planted, will make them permanent favorites.

The contrast between the fern frond and all other kinds of foliage, gives them a value equal to any other family of plants, and makes their want of flower of little consequence. Ferns that are grown in tubs and pots for conservatory and house decoration, may be grouped in the summer about the corners of rustic or garden buildings, near the porches of the house, the doors of the greenhouse, etc., or may be set singly near a flower bed.

The Umbraculum, for Garden or Lawn Decoration.

A VERY curious yet simple structure is illustrated in these two engravings. Set firmly in the ground a rustic pole of say ten feet high, and on the top of this place a tasteful bird-cage. Around the base of this pole remove the natural soil so as to form a circular area some twenty feet in diameter, and to the depth of ten or twelve inches. This excavation is filled to the level of the surface of the soil around it with broken stones or brickbats, and these covered neatly and graded with gravel. This forms a good garden floor, out of which lead paths in opposite directions. Around this circular area are prepared eight fertile borders, in which eight varieties of strong growing, running vines are planted, and a post firmly set by the side of each plant. These posts project but a few inches above the surface of the ground, and to them are attached eight chains, which extend up and are attached to a hoop made of three-quarter inch gas-pipe, twenty feet in diameter, which is suspended on eight similar chains attached to the pole beneath the cage. Wires are then woven into the umbrella-shaped top, forming a good support for the vines, which are trained up the chains and over the head, on which the different varieties of foliage and flowers are mingled and entangled, forming a mammoth bouquet, which perfectly shades the graveled space beneath. The chains leading from the ground to the head have a little slack, thus allowing the whole head to wave or vibrate in the breeze, giving it a very pretty effect.

As it is difficult to get runners of the choice flowered varieties to cover the structure fully for two or more years, hops can be planted on one side of each of the borders, and trained up the chains and over the head, covering it perfectly the first year. Strong growing roses may be also used in place of the running vines.

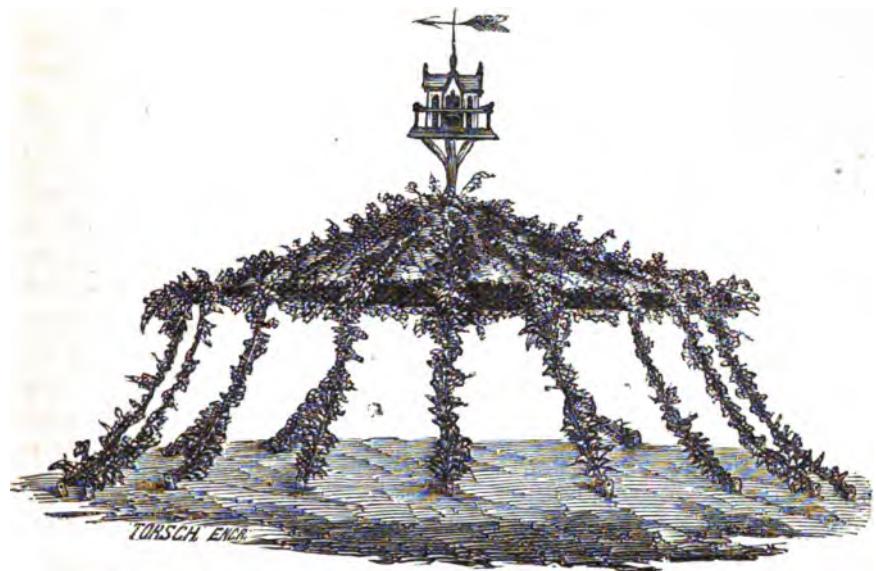


Fig. 1.

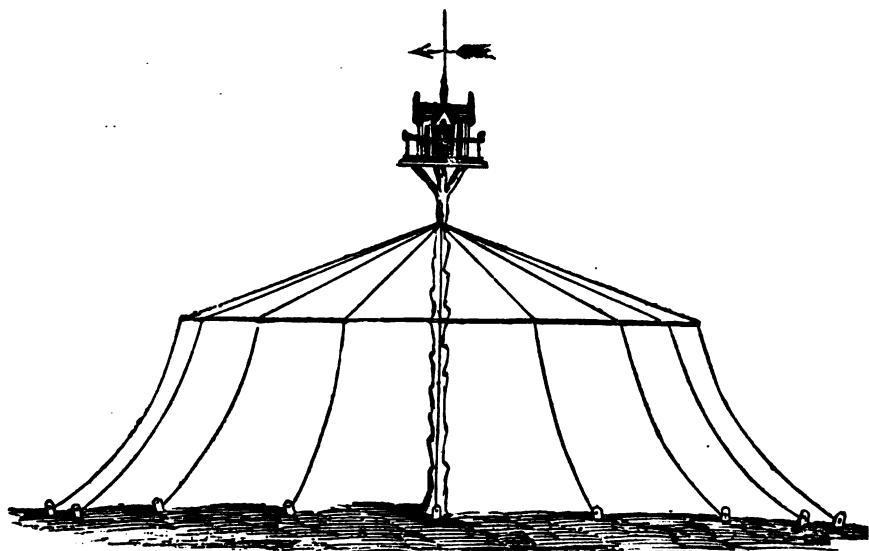


Fig. 2.

The Berry Trade of New York.

Prices of Small Fruits in the New York Market.

THE last season was a peculiar one. The berries from Virginia, as a general thing, arrived in poor condition, and sold at low figures. If I mistake not, only about four shipments from Norfolk, of large quantities, sold at remunerative figures; the larger portion arriving in such poor condition that they sold for about the cost of transportation. The loss arising from this condition of the fruit was very heavy; so much so that one or two large operators overdraw their accounts, leaving large balances against them in the hands of their commission dealers. Southern growers have been too eager to secure a large number of acres, and in so doing have lost sight of the grand secret of fruit growing—that is, quality; and they have paid dearly for it.

The Delaware growers were unfortunate this season, in having a succession of heavy rains during almost the whole time of harvesting their crop, which was large, and those persons who sent hard fruit to market realized a good price for it. In fact, good hard fruit was in demand all the time, but soft fruit was abundant, and sold at low figures. I do not remember a year when the difference in price between hard and soft fruit was so great. The cause of this was, that the hard fruit was wanted for shipping, while the soft was confined to the city trade, and was sold mostly to the street peddlars.

There was another hindrance to getting high prices, and that was the general ripening of the crop throughout the country at the same time, so that on the first of June we had berries from all sections where they are grown for the market; and yet hard fruit sold well, but the larger part being poor, made the sales average very low.

The New Jersey crop was as large as usual, but not so generally sent to this market as in former years. The Long Island, Staten Island, and River crops were also good, and sold at fair prices.

Black raspberries were very plenty, and prices ruled low. Although this berry is not very popular in our market, the demand for it is largely on the increase, and I think will soon become a general favorite among the poorer classes, as the demand for them this season was principally therefrom.

Red raspberries were scarce, and when received in good order sold for remunerative prices.

Blackberries were abundant the whole season, and considering the quantity thrown on our market, did well; but at the close of the season the demand for them died out, owing more to their arriving in poor condition than any other.

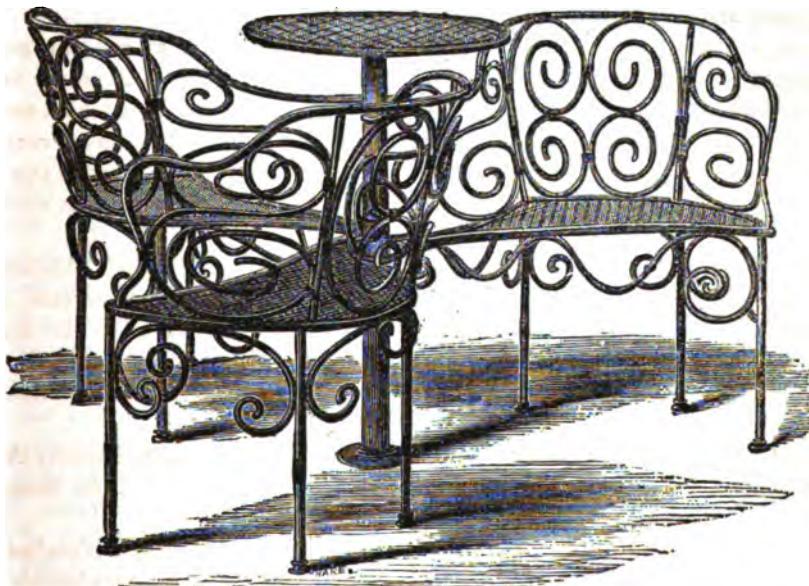
Gooseberries came in early from Delaware; the growers being eager to realize from their sales, sent them to market when about half grown; and as strawberries were plenty, there was little demand for them. Some which were sent, large size, sold for \$5; but the small or half grown ones were sold as low as \$1 per bushel. Those coming from New Jersey were larger, and sold at better prices. A few from this State were sent entirely too small, and on remonstrating with a grower for so doing, he said they were compelled to, for the worms had attacked the foliage, and were eating it all off, consequently the fruit had to be gathered.

Some growers insist upon sending this fruit to market in berry cases. This is wrong. They should be sent in barrels, slightly ventilated, or boxes, subjected to the measure of the dealers, to those who purchase them for retailing.

Whortleberries sold well the entire season; the first arriving from New Jersey about the first of July, sold for \$10 per bushel; in a few days prices fell to \$8, at which figure they remained about ten days, when they fell to \$4.50 for hard shipping fruit; and the soft was sold from \$2 to \$3 per bushel. Owing to the extreme heat, this fruit has been scarce, and was received in poor condition. In many instances the pickers refused to go in the woods, as they could not stand the heat; and this season the carters have experienced another difficulty in securing pickers, owing to the demand for hands to work among the cranberries, which they say pays better than gathering whortleberries.

The past season an experiment was made of making this fruit into wine and brandies for medicinal purposes, and an experienced manufacturer has given it as his opinion that it is better than blackberries; in fact, in every case where it was tried, it proved to be good.—*C. W. Idell, in Rural New Yorker.*

Garden Chairs.



At first glance the chairs in the accompanying illustration seem to be carelessly placed around a small centre table, as though left for a moment by the occupants; yet on close examination it will be seen they are all securely fastened to the pedestal of the table, and all really are joined together to form one piece of furniture. This style of garden chair was exhibited in Paris, France, and at Oxford, England, last year, and is known as the *Triclininium*.

Evergreens in Orchards.

OF the advantages accruing to the orchardist whomingles evergreen trees occasionally with his pears, apples, etc., I have before written, and it is, I rejoice to know, gradually becoming an acknowledged item toward success. The ameliorating influence of the evergreen extends really but about fifty feet; yet within that distance the bodily action of man feels it perceptibly, and so, reasoning with careful observation of animal and vegetable life, each year tells me more and more that to ensure success and perfect development of either, certain warmth and shelter, etc., must be had. In the animal it is by means of artificial shelter and clothing in which they can be placed; but in the vegetable it must be by the subduing action of one plant upon another, and the evergreen, from long experience, is proved the safeguard, ameliorating nurse of the deciduous tree.

It has been during the past year asserted that evergreens soon grow so large as to displace other trees; let me say that if they are pruned each year from the time they are three feet high, by cutting out in spring time the heading shoot of each branch, there will be no trouble in growing the White Pine, Norway Spruce, etc., in and among pears or other trees at distances of twelve feet each; but should it ever occur that the evergreen overspread its bounds, it will bear the shears, and not object to having its head sheared from bottom to top, so that it shall resemble a cone of six feet at base and fifty feet high, provided the cutting be done in April or May.

F. R. ELLIOTT.

Propagating Plants.

IN order to have flowers early in the season, from seed, you will find the following brief hints of value to you, if taken. At the Pottery you can buy small two-inch pots for a cent each. Get a hundred, or more if you like; make a hot-bed in the usual way, and fill your little pots full of the richest, lightest earth you can find, and that which is free from foul grass or weed seed. Plant a few seeds in each pot—the number to be governed by the size of the seed—sowing them quite shallow, and pressing the soil *lightly* with the back of your fingers. Then plunge the pots in your hot-bed soil up to the rim of the pot; water occasionally with a very fine rose sprinkler, and your planting is done. Give plenty of air on warm, bright days, and when your plants are several inches high, either thin them out to two or three, and throw the other away, or transplant them to other pots and place in a cold frame. When all danger of frost is passed, turn out your plants *with the soil* or ball of earth attached, wherever you want them to grow. If treated in this way, no shading will be necessary, and your plants will grow as well as if they had never been transferred. Cucumbers, melons, squashes, etc., etc., can all be treated successfully in like manner, and you will thus be enabled to eat fresh vegetables in advance of your plodding neighbors, some three or four weeks. This advice is given after several years of practical testing, and is no mean theory suggested by an idle brain.

Stanford, Ky.

WOODMAN.

The Exochordia Grandiflora.

THIS pretty shrub is still but little known in this country, only one or two nurseries keeping it as a specialty. It reaches the height of about six feet, and has a peculiarly graceful habit; when covered in spring with its large, pure white flowers, it is described as an object of deserved admiration. It is also hardy and well adapted to this climate. It was introduced into England by Robert Fortune, about fifteen years since, from China, and at first was supposed by English botanists to be a remarkable species of the Spiraea, but afterwards it exhibited marked characteristics, which entitled it to a separate name; hence christened *Exochordia grandiflora*.

The engraving is taken from a shrub now eight years old, in the possession of Andrew S. Fuller, Woodside, near New York. It was described recently in the *Rural New Yorker* as being difficult to propagate by the ordinary method, yet layers will strike root the second, if not the first season, after being buried. Plants have also been grown from green wood cuttings taken from plants grown under glass; this will probably be the only rapid and successful method of multiplying it. This difficulty in propagation has prevented it from becoming as popular as it should be.

How to Market Strawberries.

IT is a question with some growers which size basket should be most preferred, quarts or pints. This depends upon the kinds of berries to send to market, strawberries, raspberries or blackberries. If strawberries, it makes but little difference which size is used; but if raspberries or blackberries are sent, the pints are preferable, as the quarts are too large for these last varieties. The baskets most preferred in New York are the Beecher and the American; the former round and the latter square.

The crates should be neatly marked, with a stencil-plate, with the names of the owner and of the firm to whom the fruit is consigned; all of which the dealers will furnish to every one who has a reasonable sized crop.

The practice of nailing cards on the crates is a bad one, for they are easily torn off, and occasion a considerable amount of trouble to the railroad company and the dealers.

All berry growers should provide a suitable and convenient shelter, easy of access to the "patch," to protect the fruit from the heat, as well as storms. And those having their fields of berries near their houses, might make use of their cellars for that purpose, as they are far preferable to *any* open shed; for one hour in a cool, dry cellar will cool and harden the fruit more than three hours in the open air, and will make them stand a night's transportation in a hot car, and preserve them in a more perfect condition.

The *lids* of the crates should never be closed until the last moment, and care should be taken while loading and carting them to the depot, to see that they receive no unnecessary rough handling or jolting before they are delivered to the transportation company.

Should the road be dusty, have them carefully covered to prevent the dust from penetrating the crates, thus spoiling the fruit; and always protect them from the heat of the sun. If they are shipped in cars, see that your fruit is always placed *together*, so as to enable the dealer to get it at once; for sometimes it happens that the crates get scattered and mixed up in the cars, and a loaded team must be kept waiting a long time in order to find a single crate, even if the detention causes a loss in the sales of several crates of fruit.

The baskets should be filled rounding full, in order that they may look well upon opening, and to allow for the shrinkage and settling of the fruit during transportation, and those on the top should be filled fuller than the others, for the space between the lid and the fruit is greater than between any other layer, and the heat from the others rises to the top and causes the fruit to soften, which permits it to become displaced, and injures the sale of it.

It is a noted fact that the top layer of berries, which should always be as good as any, is generally the poorest; and it frequently happens that it is so badly damaged, that the dealers are compelled to take them off, and place them in a crate by themselves, and sell them for just what they are—damaged fruit. But this changing requires time, and, when the quantity is large, more than can be spared; consequently, the fruit is sold for less than it is really worth.

While securing the crop, it should be the duty of one person to see that the ripe berries are all picked clean as they go, and that the pickers begin where they left off, thus securing a uniformity in the ripening that will secure a good article in the market. Some pickers are very careless, and retain a larger quantity in the hand than they ought, consequently bruising the fruit, and although the damage is not observed at the time, nevertheless it is done, and shows very plainly on its arrival in the market.

This one point is just where so much injury is done to the fruit, and yet some growers cannot understand why it is that the dealer is constantly complaining of the quality of their fruit, when the whole grand secret lies just with the growers; they damage the fruit before it leaves their possession, merely through careless handling.

A word in regard to the topping or dressing of the fruit. I think it pays to do it, but it should not be overdone, and I think the safer rule is to dress just as you would wish it if you were the buyer.

Before your fruit ripens, make an arrangement with some good, responsible dealer about the selling of it, informing him of about the quantity you expect to market, and require from him the terms upon which he will sell it.

The general custom of dealers is to charge ten per cent commission over the sales, and pay a stipulated price for those crates and baskets that they fail to return to the line from which they received them.

C. W. IDELL.

New York City.



Champion Moss Curled Parsley.

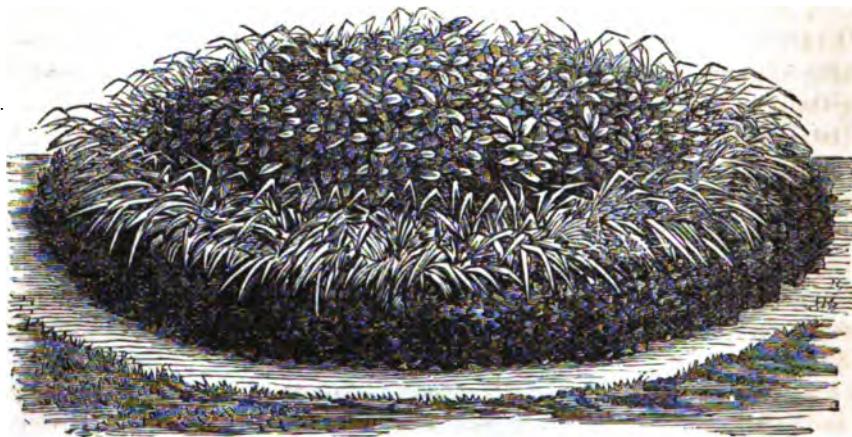


THIS is a new variety, imported from England, and represented to be a very fine sort of curled parsley; by some described as being the perfection of a paraley for garnishing purposes, and not to be surpassed.

The Turk's Turban.

A VERY striking example of the effectiveness of ribbon gardening was seen last year on the grounds of Peter Henderson, at Bergen, N. J. A circle of nine feet in diameter was laid out, upon the outer line of which was planted *Centaurea gymnocarpa*, a plant with whitish gray, fern-like foliage, growing about one foot in height. The next line was planted with Zonale Geranium, with scarlet flowers, growing about eighteen inches in height. The third line contained golden-leaved *Coleus* (*C. Cociniatus*), and the centre the well-known crimson-leaved *Coleus* (*C. Verschaffeltii*). The diameter of the outer two circles is about two and a-half feet each; the third, one foot at the centre, six feet across.

Several other effective styles were successfully carried out; for instance, a *crescent*, arranged as follows: The outer lines, all around the edge, were planted with the golden tri-color Geranium, "Mrs. Pollock"; leaves yellow, crimson and green. Immediately inside this was the Achyranthus Gilsonii, with carmine or purple leaves, and in the very centre was put the *Coleus Verschaffeltii*; leaves deep crimson, yet velvet-like texture.



A border, six feet wide, parallel to a walk, was planted first with a row of *Lobelia Erinus*, having flowers of the richest shade of azure blue; next, the zonale geranium "Bronze Queen", leaves of golden bronze, with scarlet flowers; then a line of Mountain of Snow Geranium, leaves white and green. The fourth line is Achyranthus Gilsonii, and the fifth, or last marginal line is variegated Sweet Alyssum; leaves white and green, with white flowers.

The Turk's Turban is a circular flower bed, ten feet in diameter, the centre of which is a crimson Coleus; next to this is a strip of white ribbon grass, and the outer strip is of the crimson Achyranthus. The two last each occupy strips about one and a-half feet, and the crimson Coleus the rest.

The effect is most gorgeous, presenting a blaze of brilliant beauty to the eyes of all visitors. The same arrangements can be made use of indefinitely throughout the country; and as the materials for bedding plants are so cheap, we expect to see ribbon gardening become more and more fashionable.

Profits of Horticulture in Pennsylvania.

Extracts from Address of Josiah Hoopes before Annual Meeting of Pennsylvania Fruit Growers' Society at Chambersburg, January 17, 1871.

THE cultivation of small fruits with us is necessarily accompanied with considerable expense, owing in a great measure to the character of our soils, which are remarkably adapted to the growth of weeds; but I always regard weeds as blessings in disguise, to teach men lessons of cleanliness and thorough cultivation. What we lose by extra expense in labor, we certainly gain in the size and beauty of our fruit, and this is decidedly an important auxiliary. Strawberries in my native county of Chester, pay well in the majority of seasons. We are near a good market, and quick transportation speedily delivers them to the consumers, fresh and handsome.

A successful strawberry grower for the Westchester markets, reports his experience with that variable variety, the Triomphe de Gand, as follows: "In the spring of 1864, I planted 4,800 Triomphe de Gand on ground previously planted with potatoes, which were but slightly manured, the ground receiving nothing whatever when planted to strawberries. They were set two and a half by one foot apart, and all runners kept off, and worked by a horse. In the year 1865, I sold 778 quarts for \$174.78.

After the crop was gathered, the bed was merely cleansed from weeds, and running the year 1866 again without manure, yielding 487 quarts, selling for \$151.44; the latter year a very bad one for strawberries. I consider the care I gave them but ordinary, and am satisfied the yield would have been greater had I given proper attention. I believe had the quantity been large enough to have warranted shipping, I could easily have realized fifty cents per quart, as I have since wholesaled the same variety for forty cents, with prices not so high as a general thing.

You will observe the distance I plant will require 17,424 plants per acre; we have therefore for 1865, 2,824 quarts, selling for \$634.24; for 1866, 1,586 quarts selling for \$549.72.

I have since cultivated by the acre, and have had very good success; have never yet had sufficient to supply the demand. I consider the above statement as applying to field culture, and am sorry my time will not permit me to dissect my account so as to give my larger experience.

An extensive cultivator for the Philadelphia markets, states that he sells strawberries annually to the amount of from \$2,000 to \$4,000, from about three acres, but as the cultivation is attended with considerable expense, he is of the opinion, that good opportunities for disposing of the crop, is a requisite to insure adequate remuneration. With him they are a paying crop. The same grower says in regard to raspberries, that "they pay well, for although they do not yield as much per acre, they are less expensive to cultivate than strawberries." He furthermore remarks. "I have about two acres of raspberries, and they will average one year with another about \$500 per acre. Currants and gooseberries about the same." Other cultivators are in favor of the production of small fruits here, with reports of greater or less amount of net profit on the same. Any one who is at all acquainted with the extensive Knox plantations at Pittsburg, in this State, needs not to be told, that

under the system of cultivation pursued there, small fruits are exceedingly profitable. In the orchard, pears have generally been discouraged as about the poorest crop we could possibly grow; some entertain now a very different opinion, as the following extracts from a recent letter, written by a prominent Pennsylvanian pomologist will show. He says: "It is about twelve years since I commenced planting pear trees, with a view of growing the fruit for market, and since that time I have set out near 5,000 trees. They are spread over near thirty acres, but in most of this ground the rows of trees are wide apart, and all the ground is constantly occupied with other crops; the rows themselves being filled up between the trees, with currants, gooseberries, raspberries, rhubarb, or other things, and for any thing that I can see, the ground has produced as much as if there had been no trees there. So that although I cannot base the cost of my orchard on this account at much more than the original price of the trees and outlay for planting, the latter of which not being heavy, as I went to no extraordinary expense in preparing the ground. All the manuring my pears have ever had, is the annual dressing I give the ground for the other crops. As I have generally had a fair crop of pears, and have always been able to obtain good prices, I consider them remunerative. I am not able to give any data excepting for the current year, and that without being very exact. At least 1,000 bushels have been disposed of during the present season, with a portion remaining unsold, the average price ranging about two dollars per bushel. Owing to the extraordinary warm weather, all varieties ripened quite early, and even the best keepers had to be disposed of, or they would have rotted. From this cause the price was considerably reduced."

One of the most productive pear orchards in this, or any other State, is the celebrated collection of Tobias Martin at Mercersburg, Pa., now ten years planted. The cost of the land was forty dollars per acre, and the expense of preparing the same was ten dollars per acre more; this, with the additional cost of 400 trees to the acre and planting the same, makes a total outlay of \$150 per acre after the trees were set. The trees were planted ten feet apart each way, alternate rows having alternate standards, making the standards twenty feet apart, with dwarfs between them in either direction.

For the first three years, the orchard was devoted to the growing of potatoes, two rows between each row of trees; the average annual yield of which was \$100 per acre. Afterward the ground was used for cabbage and tomatoes, with a much smaller yield, say fifty dollars per acre.

During the fourth and fifth years the trees commenced bearing, and the product was fifty dollars per acre. The sixth and seventh, \$100 per acre, and the eighth, ninth and tenth years, an average of \$200 per acre.

The annual cost of labor and for fertilizers, was fifty dollars per acre. The above statement does not include the amount of fruit used, nor that given away, which was very liberal.

The following will give some little idea of the prices received for the fruit. Bartlett, extra fine, from \$1 to \$1.50 per dozen; first class Bartlett pears, \$4 per bushel; second class, \$2 per bushel; Vicar of Winkfield, Lawrence, and Easter Beurre,

sold for \$24 per barrel; Duchesse d'Angouleme and Beurre Clairgeau (extra specimens) from \$3 to \$5 per dozen.

The peach crop in Pennsylvania, until the past few years, was a decided failure, owing mainly to the prevalence of the dreaded "Yellows;" fortunately, however, this has in a great measure passed away, and at the present time we are enabled to turn our attention to growing this fruit with profit. But in this connection I desire to impress upon fruit-growers in this State, that as the climate of Delaware and Maryland is so well adapted to maturing the earlier varieties in advance of us, it is prudent in us to turn our attention to the later kinds, which we are capable of producing of unexcelled size and beauty. For instance the Crawford's Late, a magnificent peach, is perhaps as profitable with us, and will pay as large a percentage on the capital invested, as any fruit that can be grown. I know of one instance where the crop of this variety alone sold for \$4 per bushel. Taking into consideration the length of our seasons, late peaches will very generally succeed satisfactorily. One orchardist informs me he has disposed of \$700 worth of peaches from one and three-quarter acres, mostly of the Smoek variety, although the "rot" of the past year reduced the amount considerably. Another neighboring orchard consisting of 1,000 trees, realized the sum of \$900, and, says the owner, "had all the varieties produced as well as did the Crawford's Late, it would have brought four-fold more."

All the larger fruits pay with varying success, depending greatly on the vicissitudes of a changeable climate. That apples will pay has been abundantly proven, if sufficient attention be given the trees. Insects have to be fought, and diseases counteracted, but success will surely follow a systematic course of careful culture.

One branch of pomological industry has not received that attention which its merits desire. I allude to the forcing of fruits under glass. Many are deterred through ignorance in regard to the management of such structures, believing that they are at best, but expensive luxuries, and calculated for amusement alone. That this view is fallacious, I am enabled to prove from a statement kindly furnished me by the owner of an extensive structure, designed wholly for profit. The statistics here offered were carefully compiled from an unimpeachable record, and therefore may be implicitly relied on. One of the buildings referred to, consists of a "lean-to" house, 100 feet long, and seventeen feet and four inches wide, including a four feet walk along the back. The rafters on the same are sixteen feet long. The other structure is built in the "double-pitch" style, on the north side of the former, and to which it is connected. The latter is fifty feet long, twenty feet wide, with twelve feet rafters. The whole range is heated by one of "Myers' Upright Tubular Boilers," using 800 feet of iron pipe, that will hold one gallon of water to the foot. In addition to this heating apparatus, the smoke flue is carried along the whole length of the house, and a stove is placed in the extreme northern end to be used only in excessively severe and windy weather.

The original cost of these houses is not definitely known, but as they were erected during the late war, when material and labor was at the highest point, one may judge that it was very expensive. The heating apparatus was placed in working order at a cost of something over \$700. The following is an extract from the statement of the

owner: "For two years I had no fruit; the third year I think about 150 pounds; the fourth year a nice crop of 800 pounds. No account has ever been preserved of the quantity used, but only what was sold; neither have I the amount produced by any single vine, with one exception—a large vine in the South House (Black Barbarossa, or a closely allied varied), which has fruited four years; the product of this, however, has been carefully weighed each year, and is as follows, viz.: The first two seasons forty-nine pounds, fifteen ounces each year; the next, seventy-two pounds; and the last, forty-nine pounds, eight ounces; but I am satisfied we have several Black Hamburgs that have produced forty pounds each for the past three years. Bowood Muscats that produce regularly from fifteen to twenty-five, and perhaps thirty pounds. If I was obliged to have only three kinds of grapes in my houses, I should select the above named varieties from such as I have any knowledge. If there are any more profitable I do not know them. Beside the above we grow Golden Hamburg, Muscat Trouvernon, Grizzly Frontignac, &c.

"The Muscat Trouvernon is a very constant bearer, with handsome bunches, but does not equal the Bowood in character. So with the Golden Hamburg, it is very elegant, but the Bowood is still more beautiful, and here, is as reliable as the Black Hamburg.

"Another objection to the Golden Hamburg is, it must be cut as soon as ripe, and still another, it bears full crops only in alternate years; but I should not like to do without it, as it ripens several days earlier than the Bowood.

"The Grizzly Frontignac is not a popular market grape, the objection being to its color, which is neither white nor black; but on account of its earliness, a vine or two is no objection in a collection. We have discarded Mitchell's St. Peters, and cut out fifteen or sixteen Muscat Hamburgs. There is no objection to the last named on account of flavor, but the manner in which it ripens is very vexatious."

These vineeries commenced bearing full crops during the summer of 1868, when the amount sold was 1,078 pounds, twelve ounces, and realized \$1,867.44; the expenses for the season, for coal, labor, marketing the fruit, incidentals, &c., was about \$670, leaving a net profit for the year of nearly \$700. The year 1869 produced a crop of 1,097 pounds, eleven ounces, and sold for \$1,147.20, at a net profit of \$588.93.

The past year's profits was but about \$367.86; these expenses include all repairs and additions to the buildings, as well as commissions paid for disposing of the fruit, &c.

Trouble with the Wilson Early Blackberry.

I FEAR this variety will be a failure. I have noticed an enlargement on many of the canes for the last two years. By cutting into it I find there has been a worm going through the heart or pith. I find that the canes die before the fruit is developed, and my neighbors the same. I have noticed nothing of the kind on the Kittertinny, or other kinds growing beside the Wilson. The canes are pierced all through from near the top to and into the roots. We have had two very dry seasons; perhaps that cause may have helped the difficulty.

D. S. MYERS.

Bridgeville, Del.

Editorial Notes.

A New Book on Forest Tree Culture.

We have the pleasure of announcing the early publication, from the office of the HORTICULTURIST, of a valuable new book, entitled, "Forest Trees and Native Evergreens for Shelter, Ornament and Profit," by ARTHUR BRYANT, Sr., President of the Illinois State Horticultural Society." Mr. Bryant has bestowed upon this work close attention, aiming to make it complete in all its information, and a handy, practical manual for all tree planters or tree growers. The detailed descriptions of trees are by far the most complete and accurate of any work now extant on Timber Culture.

It is written in a plain, simple, condensed style, that will be liked by every farmer, and we know it will be highly appreciated by Western readers, as it is specially adapted to Western necessities. We have good reason to believe that it will be acknowledged and accepted by all, as the best on the subject ever published in this country. It will contain over 200 pages, be printed in excellent style, and price not over \$1.50.

Every Gardener and Small Fruit Grower Should Keep Cows.

Manures are the secrets of success in small fruits and gardening. Mineral manures are excellent to add where the soil is already supplied with vegetable mold. We believe small fruit growers should not spend their money off the farm for manure, but should make it at home; hence, we recommend them to keep cows—say two to every acre they have in garden operations. See the rich bank of manure they will accumulate in the course of a single year. A cow of the average size will void about sixty pounds of manure in a day, measuring about 1 1-6 cubic feet, which is more than three cords—weighing over ten tons—in one year. The urine alone, in the course of the year, amounts to 900 pounds—worth fully double the solid matter. It has been proved that stable or barn-yard manure, composted with two or three times its weight of muck, is still as valuable for application as if kept by itself. Keep this under shelter; work it over until fully decomposed, and at the end of the year we have from every cow a pile of twenty-four cords of good compost. This is enough to fertilize two acres of land yearly, and keep up in highest productive condition. The sales of milk will pay all expenses of food and keeping, and leave the manure a clear profit. These twenty-four cords of manure could not be purchased of any farmer for less than \$3 per cord. Here, then, we have a clear value of \$75 per year, for every cow from manure alone, and as much more from milk.

Cutting Down Blackberry Patches.

The fruit growers of Hammonton and Vineland, N. J., are cutting down their Blackberry bushes and ploughing up their Strawberry beds, convinced that, in their locality, their culture does not pay. The past three seasons have been very unfortunate for them, and, on Blackberries particularly, there have been two total failures. This last season, Blackberries could not be sold nor made into wine, and no one cared to dry them; so, they were left to hang on the vines unpicked. The Blackberry fever has gone its full length. We are reducing our own area devoted to its culture, and advise all others to do the same. There is a short period of about one week, just before Peaches come in, when Blackberries sell pretty well; but after that, it is generally unprofitable to ship them, save in favored localities.

Lilium Tigrinum Flora Pleno

A beautiful novelty was introduced here last year, and flowered for the first time. It has the habit of the old, well known and popular Tiger Lily, but is very distinct from it, in the fact that it contains *double blossoms*. The stems reach three feet high or upwards, and the individual flowers are about four inches across. In the ordinary Tiger Lily there is usually but one series of petals around the centre disc, but with this new variety there are six series—one lapping regularly over the other to the top. It is certainly a great novelty, and is, as yet, scarce.

Early Strawberries.

A correspondent of the *Country Gentleman* pleads earnestly for the Downer's Prolific:

Perhaps there is no Strawberry grown that will color a few berries earlier than the Wilson, while its main crop, or picking, is fully four to five days later than many other sorts.

The Downer's Prolific ripens up a few pickings with me before the Wilson's Albany, if not grown on too rich soil; and, too, the bulk of the crop ripens up early, which is not the case with the Wilson.

This same thing is noticeable in the Raspberry or Blackberry. The Philadelphia will turn a few berries as early as the Kirtland, but the last yields all of its crop early, at three or four pickings, while the Philadelphia extends along for weeks and months. Just so with the Miami and Doolittle. The first will ripen up a few berries as early as the last, but the last will all be gone by the time the first is yielding full pickings. The Wilson and Kittatinny blackberry show the same characteristics. The last will ripen up a few berries as early as the first, but not its general crop. Now, what are the advantages of one over the other? Simply, that the Downer, Doolittle, Kirtland and Wilson's Early are all marketed when the price is high, while the other dwindle along late and brings less price—that is, in the markets where earliness is a requisite for profit.

Another point. The Downer should not have rich, heavy soil. If grown on such it grows rank, sending up long leaf stalks and large leaves, which cover and shade the fruit, and which detract from the fruitfulness of this variety and make it fully a week later. The same with the French. They delight in a light, sandy soil, of only medium richness, and, when planted on such, seem to run wonderfully to fruit and yield their crops very early. Rich soils do not seem to affect the Wilson so much in that way. This is an important matter, that all should consider. That some varieties are affected more than others by soil, especially in earliness, and in order to test the earliness of different sorts, the soil that is best adapted to them, and that affects the earliness and lateness of each, should be taken into consideration. Give the Downer a light sandy soil, and not over rich.

Amount of Mulching for Each Acre.

We use from three to five tons of salt hay per acre on our field, spreading it evenly over the surface of the ground. If applied before winter comes on, the tops of the plants are covered one to one and a half inches deep. Sometimes we do not cover at all during the winter, but spread it between the rows during blossoming time next spring.

We find our fruit ripens up much earlier, while, when picking time comes, the coolness of the mulch and the consequent moisture fill out our berries to good, large size, and bright, handsome, crimson color. By manipulating our mulch rightly, we can direct the ripening of our fruit either a week earlier or a week later; but, in every case, we find it adds heavily to the product over lands not mulched, at the same time producing berries of better size, color, and free from sand or grit. No small fruit farm can afford to do without a good and liberal use of muck. In the West, three tons of prairie hay will be sufficient.

Bedding Plants.

The *California Horticulturist* raises the question, why such beautiful flowering plants as the *Cineraria*, with its endless varieties of blooms; the *Salvia Splendens*, with its magnificent scarlet spikes; or some of the Begonias, with their exquisite drooping clusters, are not cultivated to a greater extent, as bedding plants in the open ground, during the summer. When we inquire the reason for this, we are told that they would perish during the winter, thereby occasioning a great deal of trouble and expense consequent upon their replacement in the spring.

How to Grow Strawberries.

Mr. John B. Moore, of Concord, Mass., in a recent lecture on market gardening, gave his method of cultivating Strawberries for the Boston market. He said that there were several methods of treating the Strawberry plant, and he had tried the following, with great success:

Set out the plants in rows, four feet apart, and about fifteen inches apart in the rows; the spaces between the plants must be cultivated with a hand cultivator until about the first of July; then take a runner from each side of the plant and lay it in at right angles to form a new plant; after the new plant is well rooted, the string which attached it to the old plant must be cut; in this way three rows of plants are produced, where there was only one before, each row lying about a foot apart from the others.

Mr. Moore, in illustration of the profitableness of Strawberry culture, referred to an experiment recently made by R. W. Emerson, his townsmen, at Concord, Mass. Mr. Emerson has seven or eight acres of land, and, as his hired man was unemployed a considerable portion of the time in summer, he inquired of the speaker as to the most profitable crop he could set him to raising. The speaker advised him to try Strawberries. He did so, and planted an eighth of an acre with Wilson's Albany seedling. Thesecond year after planting, or in 1869, he raised 1,000 boxes of Strawberries, which sold for \$300. Last year he also had a good crop, but not so large as the year previous, on account of the unfavorable nature of the season.

Big Peach Crops.

The large Peach shipments of 161,968 packages of Peaches from St. Joseph, Mich., during the season of 1870, have been quoted by Western papers, and also some foreign ones, as the "largest known to the present generation." We must give better credit to little Delaware, by saying, that from one station alone, on a railroad 175 miles long, there were shipped from Middletown, Del., last year, 175,000 baskets and packages of Peaches, and from the town of Dover, there were shipped, both by railroad and steamer, the enormous amount of 460,000 baskets. The produce of the entire Peninsula of Maryland and Delaware was 3,000,000 baskets, and the value net to the growers about \$1,200,000. Is there any other section of the world that can make as favorable an exhibit as this?

Strawberries for Profit.

Mr. Louis Ritz, of Plainfield, O., who has grown 207 American and European varieties, has made out a select list of sorts which he esteems most profitable, and they are herewith arranged in the order of their desirability: Barnes' Mammoth, Green Prolific, Boyden No. 20, Fillmore, Agriculturist, in light soils; Boyden No. 30, Lady of the Lake, and Jucunda, with heavy clay soil and high culture. All these varieties are placed ahead of the Wilson.

The Clark Raspberry.

This, on our ground, is all that can be desired—beautiful, delicious, fine size, good bearer, and fine perfume. They sprout badly, as some would say; but until I get enough plants to re-set the space occupied by Red Antworts, I will be gratified. The Philadelphia is also to be recommended.—Mrs. A. C. B., Richmond, Ky.

Ripening Pears.

A correspondent of the Farmers' Club, New York, says that he had tried many ways to ripen pears, but had found the best plan to be to pack them in close boxes, and keep them in a cool, though not too dry atmosphere. He had ripened up the Vicar of Winkfield in that way very successfully. Pears so ripened come out with better flavor and cooler than if exposed to the atmosphere to ripen. One gentleman stated there that he had known pears buried right in the soil, out of doors, to come out in perfect condition in the spring.

Selecting Fruit Trees from the Nursery.

Two year old trees are as large as any orchardist can safely select; if older, it is more than probable the trees will sacrifice a large portion of their roots in the ordeal of digging and transplanting. At two years, the nursery trees are stocky, have begun to form a good head, and their roots are not too large to be wasted in digging. They receive less check when put out in the orchard, and require less pruning, and are better prepared to commence a steady, onward growth. In many localities one year old trees are very suitable. A box containing 500 two year old trees will hold three times that number of one year old trees; hence, as the trees cost less, and the freight is so much less, there are many arguments in favor of their use. But they will not suffice for all sections. For instance, in the South, we think one year old trees are very unsuitable; two year old trees, we believe, will be far more successful. One year old trees, also, are very far from being of uniform growth in the nursery. Some years they are of splendid appearance; at other times they are small and spindling, and hence cannot be depended upon. Many varieties are slow growers in the nursery, and at one year of age are totally unfit for transplanting. It is absolutely money thrown away to plant such trees. A safe guide will be for every orchardist to visit the nursery himself, and thus see every variety as it actually appears. We recommend no one to select one year old trees for the orchard of a less height than three feet. We prefer *budded* trees to grafted ones, and they are well worth a difference of twenty-five per cent. higher price. Budded trees are of more rapid growth. A two year old budded tree put out at the same time with a two year old grafted tree, will, in five years' time, be fully fifty per cent. stronger, thriftier, larger and more productive. For other fruits than the Pear, we would select: Apples, two years old; Peaches, one year; Cherries, one or two years; Apricots, two years; Plums, two years.

Strawberries Among Fruit Trees.

Keep them out. We believe it is the general testimony of all growers that the practice of growing small fruits among standard trees, is detrimental, if not ruinous, to both. The Strawberry is a moisture-loving plant, and absorbs all it can secure. If cultivators *must* grow trees in their small fruits' beds, let them see to it that all Strawberry vines are removed for a distance of three feet from each side of the trunk, then manure the ground near the tree freely every fall with stable manure, and in summer keep the ground mulched. This will secure plenty of moisture and fertilizing material, not likely to be robbed by the rapacious roots of the Strawberries. As the trees grow older, the circle should be widened from three to four, five and six feet. When the tree comes into bearing, the small fruit should be removed entirely. Undoubtedly, the presence of the Strawberry beds between the trees will retard their growth somewhat. If the trees occupied the ground entirely by themselves, they would gain ten to twenty-five per cent. annually over any system of gardening which admits the cultivation of other crops upon the same ground, and at the same time.

Lime for Your Fruit Trees.

It is a good plan for all fruit growers to apply lime freely in their orchards every two or three years. A half bushel to each tree, or 100 bushels broadcast, per acre, will suffice. Upon lands particularly tenacious, we have known as high as four hundred bushels per acre; but this was used for a truck garden. Light loamy lands will be best benefited by the lime, and shell lime is better for fruit trees than the usual stone lime.

Quinces on Sandy Soil.

FTHE Country Gentleman says that Quinces will thrive on a dry, sandy soil, provided it is kept rich enough, and is deeply and well cultivated. Plant about ten feet apart; let them occupy the whole ground; keep the soil clean and mellow.

Sensitive Plants.

The shrinking *Mimosa* is well known to be one of the most sensitive of all curiosities of the vegetable creation. A mere nothing makes her tremble; a small cloud hiding the sun disturbs her; the lightest wind makes her uneasy, and quickly she folds herself up. She rolls up her leaves when night comes on, and opens herself again with the first dawn of morning. In the tropics there are vast plains covered with these sensitive plants, which are affected at the slightest circumstance. The gallop of a horse frightens them; the nearest flowers close themselves, and the rest, warned by their sentinels, follow immediately. They hang their heads, most anxiously, when a wanderer approaches them, and should he insult but a single flower by touching it, an electrical movement seems to go over the whole field; they all take alarm, and all feel the attack. They are as susceptible as human beings are to the use of narcotics. A few drops of tincture of opium scattered over them, is sufficient to quiet and make them go to sleep. The botanist, Desfontaine, once placed one of these sensitive plants in his wagon, and it folded itself quickly. However, the wagon went on, and as nothing further was done to the plant, it became quiet in time. When the wagon, however, at last stopped, and the moving ceased, the plant once more got frightened, and carefully shut itself up.

Parsons' New White Mignonette.

This is a new variety, recently imported from Europe, and described as being vastly superior to anything yet grown. It is nearly pure white in color; the spikes are large and beautifully shaped, and in odor exceedingly strong—one pot of it will perfume a whole house. At four of the European Exhibitions for 1870 it received the highest premium awarded to flowers. It has just been introduced into this country, and is now sold at fifty cents per packet. We will present it free to any one bringing us a new subscriber or a club.

Asparagus Beds.

Hitherto our family gardens have allowed but small space to the Asparagus bed. The plants have usually been put out in rows, two feet apart, one foot in the row, and the beds have been limited to about 6 4-10 feet. The new variety—Conover's Colossal—has, with its introduction, also brought a new system of culture—viz: wide planting. The originator now puts his plants $4\frac{1}{2}$ by 4 feet, and grows entirely in hills. By this method larger shoots are obtained, and more shoots from every hill; so that in the end, the culture is much easier; the produce is fully as ample; but being of larger size, the profits are far greater. The roots of the Colossal will grow in one season, from seed, to the length of two and a half or three feet. If we were to plant them two feet apart, or even three, would they not overlap each other, and in time, as they enlarge, year after year, would not the ground become one entire net-work of roots, sucking and robbing one another as much as possible? But, if the plants are put at right distances apart—say four feet—each plant forms a hill by itself, controlling exclusively the nutrition immediately around, and hence we have a greater success and more permanent plantations.

Four Good Peaches.

The *Country Gentleman* names the following: 1. For the earliest, Hale's Early, or, Serrate Early York. 2. Large Early York; or, George the Fourth. 3. Crawford's Early. 4. Olmixon Free; or, Ward's Late Free. Our cotemporary has left out the *Crawford's Late*, which is among the very first of Peaches in Delaware for profit.

Value of Leached Ashes.

Before ashes have gone into the soap-maker's hands, they are estimated to be worth 39c. per bushel. After they have been leached, it is estimated that they are worth but 9c. The 30c. or 75 per cent. of their value has gone.

The Horticulaturist.

This good old stand-by of the horticultural interests of the country, more than maintains its well-earned and widespread reputation. Under the spirited editorial and business management of our genial friend Williams, it has been improved in all its departments. The illustrations are numerous and excellent, while the contributions of an able corps of correspondents, and the racy articles of the editor-in-chief, give to it a freshness and value found in no other periodical of its class. Those who desire a first rate horticultural journal, should, by all means, secure the *HORTICULTURIST*.—*From the Journal of the Farm.*

Forest Leaves.

Forest leaves are invaluable to every gardener and horticulturist. They act not only as a mulch for growing plants, but are capital for incorporation in the manure heap. If decomposed by themselves, they form a natural mould, admirably adapted for the successful culture of flowering plants in pots. All our florists are glad to get wood mould. The question has been asked as to their manurial value. The answer has never been fully satisfactory. Owing to their bulk, they are not as valuable, in proportion to time occupied in gathering, as if the same time had been spent in carting muck. But, for the successful propagation of plants in green-houses, decomposed leaves are always worth the trouble to secure.

Worms in Pots.

In reply to a query about a remedy for white worms in plant pots, a correspondent of the *New England Farmer* says that lime water will kill them, or a little slaked lime sprinkled on the surface of the earth, and in the saucer of the pot. Lime water can be made easily by slaking a large piece of lime in a pail of cold water, letting it settle, and then bottling for use. Give each pot a tablespoonful twice a week.

Spireas.

Of all the hardy shrubs the class of Spireas is one of the most beautiful, and each year growers are producing new and improved varieties. Some of the best among the new and good ones are *Spirea amurensis*, with large panicles of white flowers; *Spirea Californica*, a dwarf-growing sort, but a free bloomer; *Spirea callosa* and *Callosa alba*—the former having umbels of red flowers, and the latter a dwarf-growing sort, with umbels of greenish-white flowers, produced in great profusion and long continuance. *Spirea eximea*, *Reevesii flore pleno*, *prunifolia flore pleno*, *Douglasii*, etc., are well known; but *Ariesfolia*, although a native, is not so well known as its delicate and graceful habit and small heads of white flowers merit.—*Rural New Yorker*.

How to Grow the Pyracantha as a Hedge.

If properly planted, ninety-five out of every one hundred cuttings will grow, and that vigorously. I know no plant that grows more readily from the cutting, and have planted with equal success in October, November and February. Several have planted here, and have nice hedges, with but little trouble. The following is the course adopted:

Prepare the ground intended to be planted, by digging deep, and if poor, enriching with vegetable mold, as nothing will flourish in a poor soil or clay; take the cuttings, the growth of the previous season, and in pieces of a foot long set in the ground eight inches, slanting a little, and leaving four inches above. They must not be disturbed the first year, by hoeing or weeding, and if planted where they are intended to stand, any that don't grow can be replaced with some taken from one end of the row, and the others will have furnished cuttings enough to make several strings of fence of the same length. It makes a useful as well as ornamental hedge, and if trimmed at the 1st of June, and any time from November 1st to February 1st, cutting it well back each time, it will, in a few years, make a fence impervious to stock or anything else.

Chinese Primroses for In-door Culture.

For a neat, flowering plant in the window, there is nothing which will repay so well for the space occupied, as one or two of the Chinese Primroses. They are natives of China, and are not adapted to out-door culture. They bloom freely under glass, but unlike the other classes of primroses, require sun, and if properly managed, flower all the year round, although their most flourishing season is during the winter and early spring. All that is necessary for their cultivation is a moderately warm situation, close to the glass, medium moisture, and good drainage, which is secured by filling in the bottom of the pots with broken pieces of crockery. It is not well to sprinkle the plants with water, as the leaves and flowers will be speckled easily and soon decay. The leaves and flower stalks seldom grow higher than about six inches, and if the plant grows top-heavy, it should be supported by a few little sticks placed near the collar of it. As the plants do not flower so well after the first year, it is therefore advisable to procure young plants every year, or to raise them from seed. This, however, is not easy; the seeds being very fine, if carelessly watered, or allowed to dry out, they will be lost.

In sowing the seeds, care must be taken to cover them lightly with the soil, or what is better, not to cover them at all, but to press them gently into the surface of the soil with a smooth piece of wood. The watering should be done by saucers placed underneath the pots, or by very fine sprinklers, so as not to wash the soil; but even after the young plants have developed two or three leaves, they require careful watering; if the soil is permitted to get dry, the very tender roots may be dried up in a few hours. Our way of treating the seed is this: We water the lower body of earth in the pot by a saucer, and cover the surface from time to time with a wet cloth, so as to leave the seeds undisturbed.

Of the Chinese Primroses, we have now some most beautiful varieties, double and single; the double white is certainly a beautiful plant, although it does not bloom so continuously as the other. The fringed flowers are considered the very best.—*California Horticulturist.*

Geraniums for the Garden.

A correspondent of *The Rural New Yorker* finds the following a good selection:

First, then, is Attraction or General Grant, which everybody now wants. Its flowers are bright scarlet and very abundant. Next, Beaton's Indian Yellow, with flowers of an orange scarlet, decidedly a yellow tinge. Cybister, with flowers of a crimson scarlet. Donald Beaton, somewhat like Beaton's Indian Yellow, but with immense trusses of flowers. Leonidas, a fiery scarlet and flowers of immense size. Le Grand, also, with large truss but more of a crimson scarlet. Phoenix and Provost, both bright scarlet. Godfrey, very brilliant, and a profuse bloomer. Hector (new), a free grower and bloomer. Village Maid, with bright, deep pink flowers. White Perfection, with, as its name indicates, flowers of pure white, and a free bloomer.

These are some of my bed, not obtained because of their special novelty or newness, but for their beauty; and then I have gone back again to my early love, and got me an old ivy-leaved Geranium, and also, to compare with, one of the new ones of its class, called Bridal Wreath. The flowers of this class are not conspicuous, but there is such a richness in the foliage, that I always love to look at it, and everybody wants a little of it whenever I make a bouquet to give away.

I find pinching and pegging down all classes of bedding plants, such as I have here named, with many others, pays well for the trouble, in the great addition it gives to appearance, and in the greater profusion of bloom and added vigor and beauty of foliage.

Soil for Fruit Trees.

Fruit trees should never be transplanted to a *poorer soil* than that in which they formerly grew before removed. Most nurseries have very rich soil; hence their

trees are developed to a fine healthy size when ready for sale. Unless the purchaser pays as much attention to their after-treatment as they received before, he certainly cannot expect good results.

All land for orchards *must* be well enriched, not necessarily with stimulating manures, but, at any rate, with good phosphates, bones, lime, ashes, muck, marl, or stable manure. We believe it a good practice to give every fruit tree, every year, a good application of a peck to a bushel of manure. If the farmer's orchard is too large for his manurial resources, then let him be content with less trees, and take good care of those he does own.

Saxifraga.

A same correspondent of *The Rural New Yorker* says:

Among my perennials none are more satisfactory than the varieties of *Saxifraga*, with their broad leaves and large compact clusters of bright pink or red flowers showing in great profusion all during the months of April and May. In a little piece of rock work, where much of the planting is vines, etc., that do not leaf or flower until late, these *Saxifraga* plants make a most capital effect. I wonder they are not more commonly used.

Hyacinth Beds in the Lawn.

A correspondent of *The Rural New Yorker*, last year, recommended the planting of Spring Flowering Bulbs, in masses, on the land, after the manner of summer bedding plants, and describes the great delight which all visitors felt in the display:

Since the middle of April we and our friends and visitors have been greatly delighted with a bed of Hyacinths on our front lawn. It is circular in form, measuring twenty feet in diameter, the centre raised some two feet above the ground level. The Hyacinths are planted in ribbons, which consist of two rows of bulbs; each ribbon runs clear around the bed, and is wholly of one color. The colors employed are red, white and blue, planted alternately, and the effect is charming.

The outer ribbon, next the grass, contains 180 flowers; the next, 166; the others, respectively, 125, 102, 96, 66, 50, 25, making a total of 810.

The Hyacinths in this mass were all single. At a short distance from it is another of about the same dimensions, planted in the same way, but the colors not being so bright, the bed has not been so effective as the other.

How well nature has fitted the Hyacinth to endure the variations of spring weather! Since our Hyacinths commenced to bloom, we have had sharp frosts, heavy rains, high winds, etc., yet they have retained their freshness and beauty through all, for a period of nearly a month.

Currants.

In the last report on the Fruit Crop, the Fruit Committee of the Massachusetts Horticultural Society, say that of currants, "La Versaillaise has uniformly taken the first prize, and is first on the list. Red and White Dutch are still standard kinds. In view of the growing scarcity of this health-giving fruit, and its enhanced price in our markets, our culturists would do well to extend their plantations, remembering to provide a generous supply of manure retentive of moisture; cultivating the ground as carefully as for pears, and guarding against all approaches of the currant worm. Nearly all our gardens are infested by this pest. The eggs of this worm are deposited singly on the branches and near the buds. As soon as hatched, the worm penetrates to the pith, on which it feeds, until the month of June, when it escapes as a moth to deposit another batch of eggs. It is manifestly impracticable to reach the borer when burrowed in the stem secretly destroying the heart of the bushes. But it has been asserted that the application of air-slacked lime, plaster, ashes, or even superphosphates, and whale-oil soap upon the foliage and stems of the bushes, have been found to be destructive of the pest. Without having had experience, we suggest that these remedies are probably effectual only

against the winged moth, which appears about the middle of June, and she may be prevented from depositing her eggs, either by the offensive odors, or by the gritty dust of the lime and plaster when fixed by the dews. Whether these remedies are effectual or not, of this we are confident, that good culture will insure good results."

New Cherry—"Black Republican."

The Willamette (Oregon) *Farmer* says that President Snelling, at a meeting of the Oregon State Pomological and Horticultural Society, at Portland, July 23d, submitted for examination a seedling cherry of his own raising, which he calls the "Black Republican." This cherry is of a very dark color, and is rich and solid. Many of the cherries measure three and one-third inches in circumference each, and an inch and three-eighths in diameter. Some specimens of the branches of the tree with the fruit on them proved it to be an immense bearer.

A Profitable Orange Tree Nursery.

In March, 1869, Mr. C. A. Hutchinson, of Jacksonville, Florida, planted a plat fifty feet square, with orange seed. In February next the plants were twelve to eighteen inches high, when \$200 worth were sold at the rate of twenty dollars per hundred. The remainder were transplanted, and are now two and a half to three feet high, and occupy a space of fifty by one hundred feet, and number about 8,000 plants. They are worth an average of thirty dollars per hundred in the market, making the product of the lot, within two years, \$2,600. The expense of seed and cultivation is estimated at about sixty dollars.

Illustrated Journal of Agriculture.

This is an old candidate under a new name. The *Journal of Agriculture*, published weekly, by R. P. Studley & Co., of St. Louis, has been purchased by Wollcott & Marmaduke, and changed to a monthly, with the above title. Its issue for the new year amounts to 10,000 copies. It is devoted more to Southern agriculture and stock than formerly.

The Lancaster Farmer.

This monthly publication is edited with practical talent, and its articles, we are glad to say, are right to the point, without any waste words. Very few can claim to be superior in *quality* of information. Its price is very cheap—only \$1.25 per year—and, as it is under the auspices of the Lancaster County Agricultural and Horticultural Society, it undoubtedly is able to command a good local support from the people of that splendid farming country.

Catalogues Received, from

Michel Bros. & Kern, St. Louis.—The new Catalogue of this firm is abundantly illustrated, and contains much valuable floricultural information; is devoted especially to flower culture and plants for ornamental gardening.

Hovey & Co., Boston—is now given away to all applicants. The new issue for 1871 contains a colored frontispiece of the *Verbena Hybrida Auriculaflora*.

C. L. Allen & Co., Brooklyn—This firm, formerly devoted especially to Bulbs, have now enlarged their facilities, to include Bedding Plants, Flower and Vegetable Seeds. The new Catalogue has a noticeable feature in the introduction of the botanical derivation of the names of flowers, and little bits of history connected with each.

My Captivity Among the Sioux Indians. By Fannie Kelly.

Mrs. Kelly was captured by the Sioux Indians, in 1864, while crossing the plains. Her husband escaped. She was kept in bondage for five months, during which time she underwent a great variety of hardships, and saw the wild scenery and life of those remote inhabitants of the far Northwest. The story has an intense interest, because of its truth and the thrilling incidents related. It is told in a plain, readable style, and abounds in illustrations, among which is a steel engraving of the author, who must have been a lady of uncommon nerve, and quickness of thought and action. Published by Wiltsch, Baldwin & Co., Cincinnati, Ohio.

Editorial Notices.

The Averill Chemical Paint.

During an experience of over three years we have had ample opportunity to use for ourselves, and see the merits of this wonderful paint. It is really a remarkable production, and deserves to be ranked as one of the great discoveries of the time.

It is a paint of more than usual durability, gloss and permanence of color. We have seen it on buildings three to eight years of age, as bright and firm as the day it was applied, while it has never shown the slightest sign of wearing, washing or flaking off. The word "Chemical" must not confound it among the numerous humbugs of the day. It is by no means a humbug or imposition, but an article of real merit; as good a thing as ever was manufactured, and is sold by as honorable men as ever conducted a fair business. It is prepared in a liquid form, ready for use; is cheap, convenient and lasting. A house painted with Averill Paint will last two to three times longer than any other paint we have yet tried. We speak thus unhesitatingly from personal experience, for we have used it thoroughly, and are unwilling to permit our name to be associated with any enterprise but what is perfectly good, responsible and meritorious.

Lister's Bone Meal.

For the past three years we have used on our fruit grounds large quantities of bone meal, which has proved of admirable efficacy in stimulating a rapid but healthy growth of all our fruit trees and Strawberry vines. We have increased our use of it from year to year, and now consider it the best staple article ever used upon our place. During this time we have never found any evidence of adulteration, and we have found the manufacturers so honorable in their dealings, and always bound to keep up the standard of their integrity, by supplying only a pure article, that we take pleasure in thus commanding the name and enterprise of Lister Bros., Newark, N. J. All our fruit growers, gardeners, and farmers will find in their bone just the article they need for their orchards and gardens.

Their *vitalizing compound* or bone float, is a new article intended specially for florists and all who cultivate plants in the window, in the green-house, or in the flower garden. It is immediately soluble in water, and is not only a wonderful stimulant to all plants, but is a good protection against insects. We assure our readers that the firm are straightforward; claim no more than they perform, and really are worthy of their cordial notice.

Money in the Garden.

In this new agricultural treatise Mr. Quinn has aimed to give a good, practical, comprehensive manual on gardening, for either the family garden or the market garden. It suits our ideas exactly. There is no waste of words, nor material; everything is pointed, direct; tells at once, in the shortest possible words, all that is needed to cultivate garden vegetables successfully and profitably. One admirable feature is the publication of a select list of varieties of family seeds, worthy of special recommendation, with other items concerning the quantity of seed, vitality of seed, and table of distances. There are 268 pages, and about 100 illustrations, and is published at the very cheap price of \$1.50. Issued from the Tribune office.

Acknowledgements.

The Editor of THE HORTICULTURIST would acknowledge with pleasure the receipt of the following favors: One collection grafts of Russian Apples, from Commissioner of Agriculture; Report Iowa State Hort. Soc., from Jas. Matthews; Report Department Agriculture, 1869, from Hon. Horace Capron; Vick's New Illustrated Catalogue for 1871; The California Horticulturist, Nov., 1870; The Advertiser's Handbook, from S. M. Pettengill & Co.; The Phrenological Annual, for 1871, Reports Pennsylvania Fruit Growers Society, 1867-1870; Floral Guide and Gardeners' Manual, for 1871, from Phelps & Reynolds, Rochester, N. Y.; Fruit Catalogue, for 1870, from J. S. Downer & Sons, Fairview, Ky.

THE HORTICULTURIST

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HENRY T. WILLIAMS.

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Profits of Small Fruits.

An Essay delivered before the Annual Meeting of the Pennsylvania Fruit Growers' Society, at Chambersburg, Jan. 18th, 1861.

BY WM. PARRY, OF CINNAMINSON, N. J.

(Continued)

BLACKBERRIES.

BLACKBERRY bushes, formerly considered a nuisance, are now highly appreciated and extensively cultivated, many farmers growing more acres of them than of corn and wheat together.

It is somewhat remarkable that in this age of horticultural progress, there have been no seedlings raised better than those found growing wild on the commons, without care or culture. Attempts have been made to get blackberry bushes without thorns, and some have been found with canes nearly smooth, which created quite a sensation for a time, and the plants sold readily at five dollars each, until it was ascertained that the fruit was as much deficient as the thorns. Various colors have been brought out, White, Red and Purple, which were novelties in their way, but of no practical value in point of profit to fruit growers.

After carefully cultivating and testing twenty-six varieties, in addition to a large number of seedlings which were no better than parent stock, I have retained four, which are all valuable as field crops for market.

Wilson's Early.—At the head of the list I name Wilson's Early, the largest blackberry in cultivation, ripening early, close after raspberries, before peaches are in market; when fruit is scarce it commands the highest price. Two years since, we sold the principal part of our crop from ten acres, at fifty cents per quart wholesale, which were afterwards sold in smaller quantities as high as one dollar per quart. This variety is being extensively cultivated. One fruit grower in West Jersey, having seventy-five acres of them in bearing, received the past year \$20,000 for the

fruit, realizing a clear profit, after deducting expenses, of \$14,000, gathered within the space of three weeks' time.

Dorchester.—Next in point of *profit* to the Wilson's Early is the Dorchester, which has an upright, strong growing bush, tall, erect and perfectly hardy. For twelve years past they have done well with me, never being injured by the winter even when the New Rochelles were mostly destroyed. They have always yielded good crops of fair sized berries, long, shining black, sweet and firm, so as to carry well to market—and being early, they sell higher than the Kittatinny, New Rochelle, or any other late ripening blackberry which follows them.

This variety is well adapted to planting in orchards of apple, cherry or peach trees; being straight, upright growers, the bushes are less in the way of cultivation than other varieties that curve out from the rows and obstruct the passage between them. The protection afforded by the trees, both in winter and summer, is beneficial.

In 1863 I planted an apple orchard, forty feet apart each way, then a row of Early Richmond cherries each way between them, requiring three times as many cherries as apples, then a row of Dorchester blackberries in the rows of trees and between them, which left them at the proper distance of ten feet apart. They have all done well; the apple trees have made a fine growth and borne some fruit; the cherries and blackberries have yielded fine crops of fruit every year since old enough. The cherries ripen first, and are out of the way before the blackberries commence, so that the draft upon the land is not so great as if both crops ripened at the same time. The earliest and finest Dorchester blackberries raised in our section are grown in old apple orchards.

In the spring of 1864 I sold a fruit grower near Burlington, N. J., Dorchester blackberry plants for two and a half acres, which were set among peach trees on new land, light and sandy, from which the pine timber had been recently removed. In 1865 they commenced fruiting, yielding about enough to pay tillage—the space between the rows being profitably occupied with tomatoes and other vegetables for market.

In 1866 they produced, exclusive of commissions.....	\$600 00
In 1867	1,300 00
In 1868.....	2,057 64

Total in three years.....	\$3,954 64
Deduct cost of picking.....	287 64

Leaving	\$3,670 00

clear profits above the cost of picking and commissions; or an average of \$480 per acre for each of the three years in bearing.

In addition to the sale of fruit, large quantities of plants were dug and sold, more than enough to pay for the original stock to commence with. This is a better average for profit than usual; and one cause of the large returns was, that blackberries in many places were badly winter killed, the Dorchesters standing the cold better than other varieties, and especially when planted in orchards and protected by the trees.

The Kittatinny comes next in order as a profitable berry to grow for market. It is perfectly hardy, large, luscious, and very productive. And last,

The New Rochelle, which has been in cultivation longer than the others, but is now superseded by them.

Blackberries are among the most profitable fruit crops; their easy culture, hardiness, productiveness, and the high price at which the fruit sells, gives them a great advantage over others requiring more expensive cultivation. They are not particular as to soil or location, but will yield well where ordinary crops will grow.

It is not necessary to select the best land for a plantation, as the canes would there grow so large and rank as to require much time and labor to trim and keep them within bounds. They need but once planting, as the bushes renew themselves annually thereafter, by sending up a spontaneous growth of young suckers to bear fruit the following year; and with an occasional dressing of manure, they will continue to give large returns for many years.

I have grown on ten acres, for several years, from 650 to 700 bushels, and one season 800 bushels, being an average of over seventy bushels per acre, while land adjoining, equally good, planted with corn, did not yield fifty bushels per acre.

Preparation of the Ground.—The land should be ploughed and harrowed smooth; then open furrows eight feet apart; if muck is convenient, it is valuable to spread along them; then set the plants about four feet distant, on the muck. The roots will mostly follow along the row to feed on the muck, and grow more vigorously than lateral or side roots. Hence, the strongest and best plants will come up along the row, nearly where they are wanted to produce fruit the following year. They should not be left to stand closer together than an average of one plant to a foot in length in the rows.

Pruning.—The plantation should be gone over several times during the summer, and the tops of the young canes, as they appear above the bearing bushes, should be shortened in, so as to keep them at a uniform height of about three to five feet, according to their strength. This will cause the side branches to grow vigorously and develop fruit buds near the ground, and interlocking with each other, the bushes will support themselves, and avoid the necessity of stakes and wires to prevent high winds from injuring them. The side branches should be shortened in the following winter or spring.

Plants thus trimmed will yield more fruit and of better quality, than if left to grow tall and slender, as by nature they are inclined to do.

I have sometimes left a few rows without pruning, and others pruned but little, which fully illustrated the great importance of shortening in the branches. The unpruned bushes would bear more fruit than could be ripened on them; it would remain red a long time, and finally dry up, being of no value. The best and earliest fruit would be on the bushes well pruned so as to throw the whole strength of the roots into fewer berries.

Price of Berries and Profit.—The average price for ten years past of the blackberries we have sold of all kinds, has been fifteen and six-tenths cents per quart, which gives about the following result per acre:

2,000 quarts per acre, at 15.6 cents.....	\$312
Commissions, 10 per cent.....	\$31 20
Picking, at 1½ cents per quart.....	30 00
Interest on land.....	10 00
Use of boxes.....	10 00
Pruning, cutting, &c.....	30 80
Net profit per acre.....	200 00
	<hr/>
	\$312 00 \$312

(TO BE CONTINUED.)

A Model Suburban Cottage.

BY GEO. E. HARNEY, ARCHITECT.

THIS house was designed for a lot sixty feet wide on a village street, and should be placed quite near the line on the left hand side of the lot, leaving the wide open space on the other side for a road or paths, and grass and trees.

It is designed to be built of wood, with a cellar underneath it, the cellar floor being only three feet below the surface of the ground, on account of dampness, making the principal floor about five feet above the grade. A part of this five feet is banked up, forming a grass-terrace all around the house, and the balance is made up by the brick under-pinning.

The veranda is reached by steps, as shown in the perspective, and from it we enter the front door.

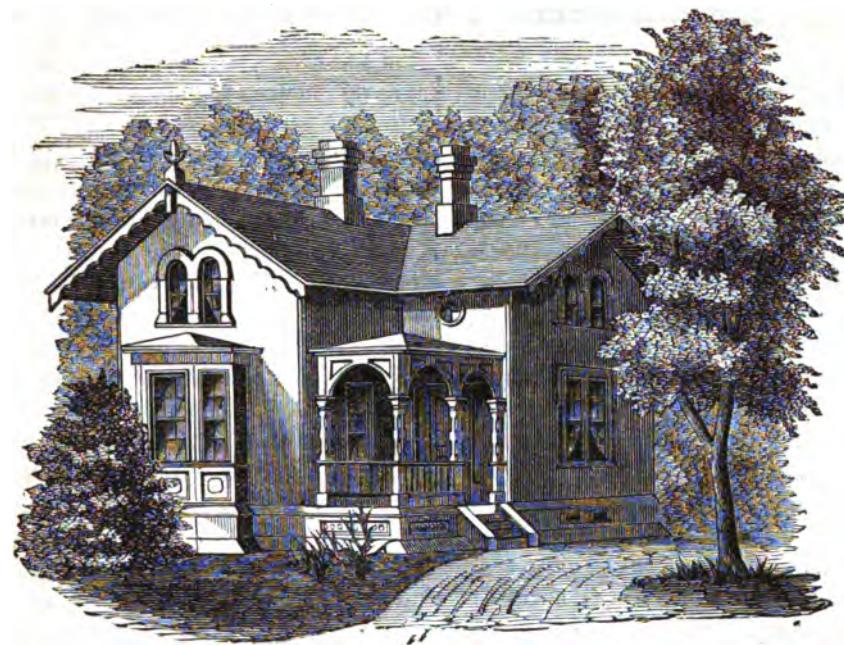
The rooms on the principal floor are: a parlor, No. 2, fifteen feet square, not including the bay window; No. 3, a kitchen of the same size; No. 4, a bedroom 10 by 13, having in it a closet at the side of the chimney; No. 5, a pantry or sink room; and No. 6, a store room. The pantry has a pump and sink, and the store room is fitted up with shelves and cupboards. The stairs are in the front hall, and under the principal flight is the stairway to the cellar. The second story has three bedrooms, two good sized dressing rooms, and a convenient bathing room.

The frame is made of hemlock, the walls are filled in with brick laid on edge in mortar, and the side with narrow, clear pine siding. The roof is covered with hemlock boards, and shingled with sawed cedar or pine shingles.

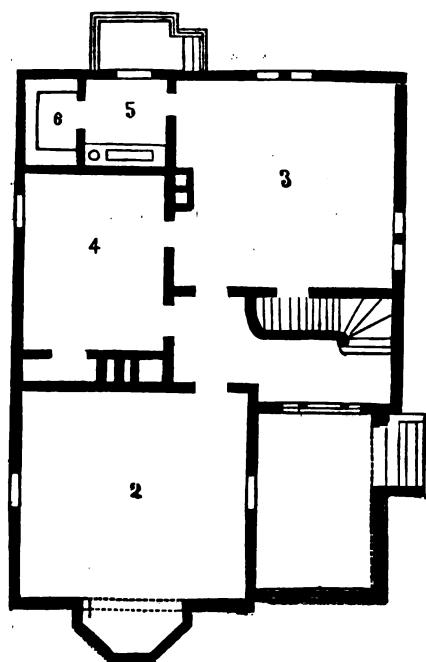
The projection of the eaves is three and a-half feet, and the gables have sawed edgings or verge boards. The inside is lathed and plastered and hard finished throughout. The floors are of pine floor plank.

The bases are six inches high, moulded, and the window and door trimmings are four and a-half inches wide, moulded. The doors are all four panelled, one and a quarter inches thick, moulded on the exposed side, and all have locks and brown mineral trimmings. The closets all have shelves and drawers and clothes hooks. The principal story is nine feet high, and the chambers nine feet high in the centre, and five feet in the caves.

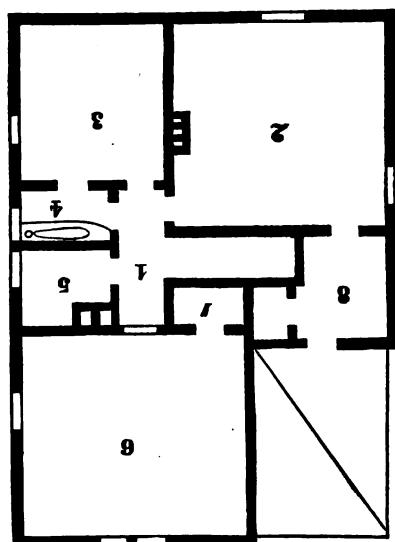
The cottage can be built for \$2,500.



Design for a Suburban Cottage.



First Floor.



Second Floor.

Noted American Trees, Past and Present.

BY THOMAS CAVANAGH.

A N interesting volume might be written upon this subject, full of romance and stirring incidents, connected with the early days of the colonies. Many of the old landmarks have passed away; time, or the axe of the modern improver, has laid them low, and in a few years the remaining ones will have departed and be soon forgotten, or only thought of in traditions of the past. Europe boasts of her lordly trees, and the skill of her scientific horticulturists is taxed to the utmost to invigorate and prevent from decaying some noted and historical tree. The oldest tree in Europe is the Cypress of Somna, in Lombardy. It flourished in the reign of Julius Cæsar, and is, therefore, nearly two thousand years old. It is one hundred and six feet in height, and twenty feet in circumference. Napoleon, who had no great respect for sacred things, in his march through Italy, altered the plan of his road over the Simplon, to avoid injuring this tree; this, in our estimation, atones for many of his acts of vandalism. A few years ago we could boast of a still more ancient tree, the Wellingtonia Gigantica; or, as it should more properly be called, the Washingtonia Gigantica, the famous big tree of Calaveras county, California. This mighty monster of the forest has passed away. The Indians had, for ages, been in the habit of assembling under this tree upon their return from the chase or foray, and while relating their exploits, the squaws were cooking their food at its base. In course of time it became so much decayed that it was cut down, in 1850. It measured, in length, 300 feet, a portion of its top having been blown off some years previous. It measured, in circumference, over 90 feet. One section of it was hollowed out and sent to the London Exhibition. In this section a party of six sat down and partook of a repast. The bark of this monster tree was eighteen inches in thickness. Among the trees now standing in the valley, may be mentioned the Sentinels, 300 feet high and 69 feet in circumference, and the Pioneer's Cabin, 318 feet high and 73 feet in circumference. In contrast to this noble tree is the Stunted Pine, called by travelers the One Thousand Mile Tree, from the fact of its being the only tree between Omaha and Salt Lake City. On this account it is celebrated.

At Roxbury, Mass., an Elm tree one hundred and fifty years old was cut down a few months ago, it having become so decayed as to be considered unsafe. All means should have been used to preserve this tree, for on one of its limbs the lamented Warren hung his scythe when he left his swarth to lay down his life for his country. The past year an Elm tree was cut down in Vermont, with a trunk measuring seven feet in diameter, two feet from the ground. It was three hundred years old, and made thirty-six cords of wood. The historic old Elm of Boston still stands, the pride of the Hub. The storm of 1860 shook it severely, and still later, in 1869, it lost several of its limbs. This is supposed to be the oldest tree in New England, it having been found there a sturdy and vigorous tree, by the founders of the Colony. This tree would, no doubt, have perished long since, but for the care bestowed upon it.

In front of the City Hall, New York, stood an old Elm tree, not much larger than its fellow trees, but interesting, from the fact that it had been the gallows upon which several patriots had met an ignominious fate during the reign of Provost Marshal

Cunningham, of infamous memory. This tree was surreptitiously removed one night, a few years ago, on account of its interfering with the movements of the military, when being reviewed by the civil dignitaries of the city. Within a short time the city has lost another old landmark, the old Varian Buttonwood, which stood on the sidewalk on Broadway, near Twenty-sixth street. This tree was planted between the years 1625 and 1630, thus making it two hundred and forty years old. It was the only surviving one of a row which had been planted by one of the old Dutch settlers. This part, of what is now the centre of the city, was then considered almost as far in the country as Yonkers is at the present day. The old tree became decayed, in consequence of its roots being confined by pavements and stone walls, and was cut down, much to the regret of the old citizens, and the relief, no doubt, of the proprietor of the house before which it stood. If proper care had been taken of this tree, it would probably have stood for another century.

The most interesting tree in New York was the Stuyvesant Pear tree, planted by the sturdy old silver-leg Governor of New York, or New Netherlands, as it was then called. What is now one of the great thoroughfares of the city, and within a stone's throw of the noble Cooper Institute, was then the Bowrie farm of Peter the Headstrong. This tree was imported from Germany in 1647. It blew down several years ago, and its place is supplied by a scion taken from it. This tree possessed great vitality, and was sufficient proof that fruit does not degenerate through age. We have seen it filled with snowy blossoms and fair-looking fruit up to the year of its fall. At the corner of Twenty-fourth street and Third avenue, stood, until the year 1860, a celebrated Willow tree, which had a romantic history attached to it. A friend of Pope's sent him a box of figs from Smyrna. Upon opening the box he found a small twig, which he planted. It grew, and in course of time it became a vigorous tree. When the Revolution broke out in this country, and King George sent his hirelings to crush it, some of his officers came to make a long stay, calculating to take possession of some of the confiscated estates of the rebels. One of the officers brought a few twigs of this Willow from Pope's garden at Twickenham. Upon arriving in this country he soon saw the situation, and as there had been no confiscation of land, nor, in fact, any likelihood of there being any for some time, he presented his cutting to Mr. Curtis, Washington's step-son. They were planted by him, on his demesne in Virginia, and grew finely. After the war, General Gates came to New York, and settled on a farm at a place then called Rose Hill. He brought slips from these trees, and planted one of them at the entrance to his grounds, and there it stood for eighty-four years. This tree was, no doubt, the parent stock of a large portion of what is commonly known as the Weeping Willow of this country.

All readers of American history will remember the romantic incidents connected with the capture of Major Andre. When the brave men, who scorned to be bribed, seized Andre, they took him under a large Oak tree, that stood by the side of the post road leading from New York to Albany, and there searched him, with what results history has told us. Arnold, the principal, escaped to England, and died without a friend. The very day the news of his death reached this

country, this silent witness of one of the most stirring incidents of the Revolution was struck by lightning and killed.

Long Island is not particularly noted for any celebrated trees. The remains of an old Oak, under which George Fox, the celebrated Quaker, preached, stands nearly opposite the entrance to Mr. Parson's nursery in Flushing. The trunk of this tree measures fifteen feet in circumference, and is supposed to be about 300 years old. The old mansion in which Mr. Parsons resides was built in 1661. It was then a large and vigorous tree.

At Stony Brook, Long Island, there is a Buttonwood tree, which one of our friends measured; it is thirty feet in circumference. The oldest inhabitant of that village died some time ago, and, unfortunately, neglected to leave a record of its age.

On Fulton avenue, in the city of Brooklyn, stood, up to a few years ago, a monster Buttonwood. It was one of the noblest specimens of the *Platanus* that we ever saw. This variety of tree was held in great favor by the ancient Romans, and, underneath its umbrageous branches, Aristotle, Plato and Socrates held forth to the multitude who assembled to hear the words of wisdom which they uttered. Pliny tells us of one of these trees, that was of such a size, that one of the Governors, with eighteen of his retinue, feasted in the hollow of its trunk. One of these trees, growing near Marietta, Ohio, some years ago, was forty-seven feet in circumference, four feet from the ground. Our Brooklyn tree was not quite so large when it was cut down; it measured eight feet in diameter. Mr. Debroise, upon whose estate it stood, stated, in 1848, that when he was a boy, it was seemingly as large as it was at that time; he was at that time nearly ninety-nine years old. The concentric rings, by which a tree's age is determined, were two hundred and seventy-five, as far as we could count; but we should judge it to be at least three hundred years old. This tree was, no doubt, the next largest to the Sycamore, which stands on the Seakonnet channel, and is the largest tree in Rhode Island. It measures thirty-two feet in circumference, and is the sole survivor of all the trees which were in that vicinity during the Revolution. The only large trees now standing within the limits of the city are three Buttonwoods, on the Jamaica road, near our residence. They are fine trees, measuring twenty-one feet four inches in circumference. These trees were planted by some of the ancient proprietors, years before the city was ever thought of, and when the inhabitants lived in blissful ignorance of political rings.

There are two Oak trees in Salem county, New Jersey, which are noble specimens of this kind of tree. The original growth of timber in this county is nearly gone, but these Oaks remain to show the wonderful fertility of the soil. One of these trees, standing on the outskirts of the town, measures twenty-six feet in circumference, and is over one hundred feet in height; the other stands in the centre of the village churchyard, and its branches cover the graves of those who, no doubt, sought its grateful shade hundreds of years ago.

Among the most celebrated trees of this country, that have passed away, was the Charter Oak, of Hartford; the sanctuary of the charter of the good old State of Connecticut—in late years celebrated for its wooden nutmegs and hams. This famous tree was twenty-five feet in circumference, and was, no doubt, over six hundred years

old. Shortly after its fall, relics of it were eagerly sought after, and candor compels us to say, the supply was equal to the demand. The Cape Ann Cedar is one of the noted trees of which New England boasts. Fine specimens of the Cedar are to be found occasionally along the line of the New England coast; but this one, in particular, is worthy of mention, growing among a mass of rocks, with nothing more fertile than sea sand, stunted in form; but what it lacks in height is more than compensated for by its strong trunk, of over six feet in circumference. The storms of centuries have passed over it, yet there it stands, a silent monitor to us, of what can be done under the most adverse circumstances.

At Shiloh, Cumberland county, New Jersey, there is an American Holly—*Ilex Opaca*—over one hundred years old. When we take into consideration that the Holly, on account of its slow growth, is rarely used as an ornamental tree, this tree is remarkable. We hope the day is not far distant when the Holly will be sought after as a hedge plant.

Many tourists, in passing up the Hudson, have, no doubt, contemplated with interest the ruins of Fort Edward, a portion of which was destroyed by fire in the year 1756. Close to the water gate, on the banks of the Hudson, stood a Balm of Gilead, or *Populus Candicans*. It was, up to a few years ago, one of the finest specimens of this variety of tree in the country. It measured, in 1850, twenty feet in circumference at ten feet from the ground. This noble tree was spared from the ravages of the fire when the fort was burnt. Fort Edward, it will be recollectcd, was also the scene of the massacre of Jane McCrea. The tree under which this took place is passing away. It was formerly a noble pine of five feet in diameter, but the storms of a century have left it but a shattered relic of the past.

In connection with celebrated trees, it may not be out of place to give a passing notice to the celebrated Liberty Tree of Boston, which was destroyed by the British during the siege. It stood on the corner of Washington and Essex streets; a fac simile of it is sculptured in stone, and placed in the niche of the house which is built on the spot where it grew. When it was cut down, a soldier, who happened to be up in the tree, was killed by the fall—a just retribution. The following lines were written upon the affair:

"Now shined the gay-faced sun with morning light,
All nature gazed, exulting at the sight,
When swift as wind, to vent their base-born rage,
The Tory Williams and the Butcher Gage
Rush'd to the tree, a nameless number near,
Tories and negroes following in the rear;
Each, axe in hand, attack'd the honor'd tree,
Swearing eternal war with Liberty;
Nor ceas'd his stroke till each repeating wound
Tumbled its honors headlong to the ground;
But ere it fell, not mindless of its wrong,
Avenged, it took one destined head along.
A Tory soldier on its topmost limb;
The genius of the shade look'd stern at him,
And marked him out that self same hour to dine
Where unsnuff'd lamps burn low at Pluto's shrine;
Then tripped his feet from off their cautious stand;
Pale turn'd the wretch—he spread each helpless hand,
But spread in vain—with headlong force he fell,
Nor stopp'd descending till he stopp'd in hell."

The old Oak at Long Meadows, Massachusetts, under which, tradition tells us, the oldest inhabitants made their treaties, thereby securing valuable tracts of land, for the consideration of a few pewter buttons and elegant strings of pearls and gold beads, made of glass. This noble old tree succumbed last year to the ravages of time and want of care on the part of the civil dignitaries of the town. It was principally interesting on account of its great age. It measured twenty-four feet in circumference, and was supposed to be at least 300 years old.

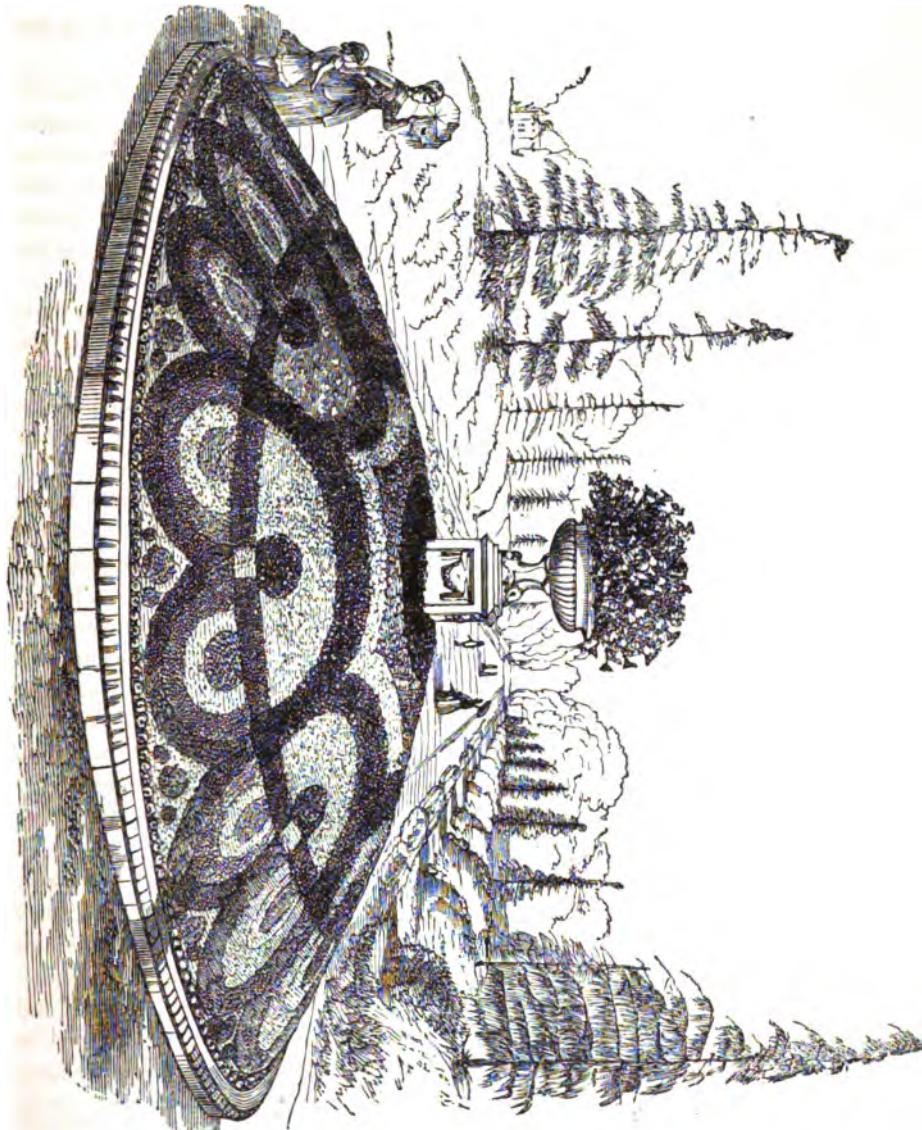
Massachusetts has been particularly favored in the matter of big trees, if in nothing else. In front of the Watson House, at Spencer, there stood, for one hundred and twenty-nine years, a noble old Elm. It was so badly damaged by fire when the hotel was burned, that it had to be cut down. It was interesting from the fact, that for a number of years a pair of foxes took up their abode in a hollow of the trunk, and resided there without fear or molestation; a fact which speaks volumes for the ubiquitous small boy and the curs of the neighborhood.

Newburgh prides itself on having a big tree. It is a noble specimen of the Balm of Gilead. It stands on the road to Marlboro. It measures, at two feet from the ground, nearly twenty-four feet, and its branches extend over one hundred feet. There is no record as to whether it grew [there spontaneously, or was planted by the grandfather of that celebrated individual who, it is said, has no memory of when celebrated local events took place.]

An old relic of the memorable battle of New Orleans was cut down a few weeks ago. This was the historic Pine, on the Isle Aux Pois, and well known as the English look-out tree, from its having been used as a post of observation by the English, on their retreat from that disastrous field, where seven hundred brave men found, instead of beauty and booty, only a grave. This tree, being on the line of a new railroad, was sold to the proprietors of a saw-mill. It was over one hundred feet in height, eighteen feet in circumference, and supposed to be two hundred years old. The Rebellion has furnished us with a few trees which are interesting, from some event transpiring near them. At South Mountain, on the spot where General Reno fell, is a noble specimen of the Chestnut. The trunk of this tree is perforated by hundreds of bullets; yet there it stands, seeming uninjured, marking the spot where a brave man fell.

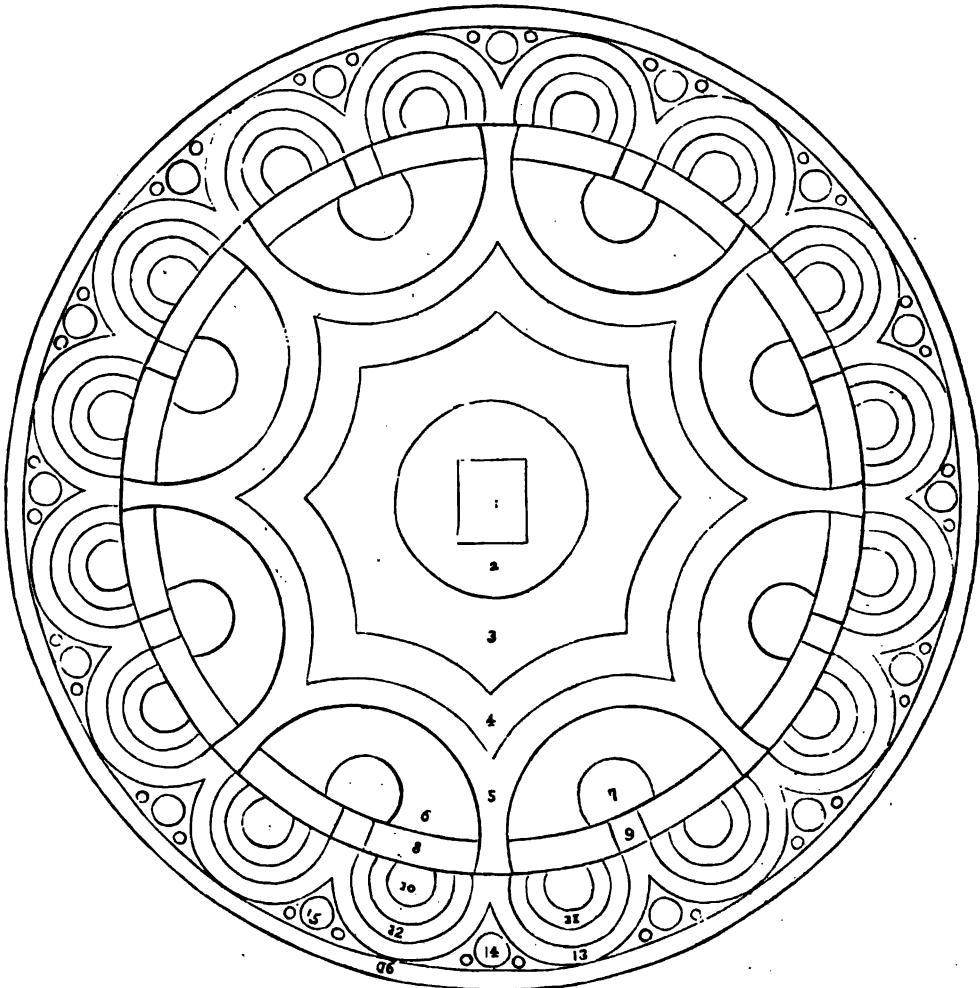
When Sherman commenced his celebrated march to the sea, he found it necessary, at times, to make observations of the country, and his scouts always selected some large tree for this purpose. At Atlanta, there is a large Pine tree, which is now called Sherman's Signal Tree. To make it easier of ascent, there are cleats nailed to the trunk, from the ground to the extreme top—a height of some one hundred and seventy feet. It measures about fifteen feet in circumference. Many of the trees in that section are decorated with what the boys in blue called the Jeff. Davis neck-tie. These were formed by twisting red hot railroad iron around the trunks of large trees. These collars are not easily removed, and in some years' time, when many of the incidents of the war will have been forgotten, it will be a matter of much speculation as to the object for which they were placed there. The most celebrated tree of the present day is the Apple tree at Appomattox Court House, under which Generals

Grant and Lee met to settle the terms which were to send to their peaceful homes thousands of men who had gone to battle for their country.

A Fine Example of Bedding.

IN the Royal Gardens at Kew, near London, England, there was exhibited, last summer, a remarkable example of arrangement in bedding plants. The illustration represents a large round bed, at the end of the broad central walk. The central vase(1) was of a very elegant design, and filled with Pelargoniums, with a tall

Humea Elegans in the centre. Around the base of the vase was a circle of Perilla(2). This was enclosed within an octagonal-shaped mass of Pelargonium Waltham Seedling(3). This octagon was again bounded by a double belt of Centaurea Candida inside(4), while the semi-circles extended outward(5) were planted with Coleus Verschaffeltii. The concave spaces(6) within the semi-circles were filled with beds of Mrs. Pollock Geranium, which, in themselves, surrounded another

*Plan for a Flower Garden.*

small circular bed of Iresine Lindeni(7). A circle of blue Lobelia(8) came next, and ran around the whole bed, broken opposite to the centre of the semi-circle by plants of Sempervivum Canariense and S. Arboreum Altropurpureum(9), which proved too large for their position. Outside the circular bell(8) are a series of concentric semi-circles, with their convexities directed outward. The centre of those

semi-circles(10) consists of *Echeveria Metallica*, and an undergrowth of *Alternanthera Amabilis* and *Sempervivum Urbicum*. This is surrounded by a belt of Golden Feather Pyrethrur(11), which, in its turn, is encircled by a belt of *Echeveria Secunda glauca*(12), next to which comes a brilliant and effective zone of *Althernanthera Paronychioides*(13). The sides of the triangular recesses(14, 15) left between the contiguous semi-circles are composed of Golden Feather Pyrethrur, while the base of the triangle is formed by the edging(16) of *Echeveria Secunda glauca*, which runs round the entire bed, inside the moulding. In the centre of the triangle(15) are plants of *Echeveria Metallica*, *Sempervivum Californicum*, *Senecio Pyramidalis*, *S. Sempervivum Arachnoideum*, *Althernanthera versicolor*. In alternate beds, *Pachyphytum Roseum* is substituted for the *Senecio*.

It is hardly necessary to say that the display was most striking, and would have been, undoubtedly, more effective, had not the lower and outer portion of the rim been so crowded. An arrangement a little more simple, with a less variety of plants, would have produced a more splendid coloring and contrast.

The diameter of the mound is 40 feet, and circumference 120 feet.



Western New York Horticultural Society.

THE Annual Meeting was held at Rochester, N. Y., Jan. 18 and 19, at which interesting discussions took place. We are able to present condensed reports of the most interesting topics brought up and discussed. Special attention was paid to

The Marketing of Fruits.

Judge La Rue thought that fruit growers were often at fault in the quality of fruit they ship, and recommended the division of all fruit into extra first class and second class, with the name of the grower upon each package.

Mr. Brooks said Western New York apples were superior to those grown in any southern locality, and it would pay us to make a selection of the very best and demand fancy prices for them. He did not believe in the present tendency of running to Baldwins, Greenings, Twenty Ounce, apples and others that are not of the highest quality. We should encourage paying a higher price for Spitzenergs and fancy apples. He thought second quality apples should be largely in demand for cooking purposes.

Mr. Hayward said packing apples was a very difficult process. He had taken great care in packing, and yet had not always succeeded in satisfying shippers. We had no encouragement in making extra first class apples. The dealers and consumers will not take them at a price that will pay for doing it.

Judge La Rue thought that fruit growers who had large quantities of apples should be their own shippers, the same as grape growers did. He frequently had orders for brands of grapes which consumers liked. The fruit interest in Western New York is increasing so that it will in a few years be greater than all other interests. When he first commenced raising grapes he could not get any market for a ton. Next year he sold at nine cents, and in two or three years the price went up to thirty cents a pound. Last year, owing to the increased production, he got only fifteen cents a

pound; but he could grow them for two cents a pound. The cost of production was not more than one cent per pound.

Mr. Quimby thought that apples were often much injured by carelessness in picking. Mr. Robert Bell, on the Hudson, has the largest orchard of Newtown pippins in the State. The apples are picked with great care, and assorted carefully. His best apples are packed in small casks and shipped to England, where they sold at \$8 and \$10 per half barrel. The 2d quality were sold in New York. The refuse apples were made into cider and sold for \$8 and \$10 per barrel to champagne manufacturers.

What fruits shall we now plant extensively for profit?

Mr. Moore said the Roxbury Russett was one of the most profitable varieties of apples.

Mr. Beadle said apples were most profitable. He thought there was more money in apples than in any other fruit.

Mr. Hoag thought that this Society should not confine itself to one single variety. He had grown all kinds of fruits with profit except the plum. There are very few varieties of apples, especially in old orchards, that are really profitable.

Mr. Wagner thought that apples and all kinds of fruits could be grown with profit, but with him grapes were most profitable. He sold at home from four to eleven cents per pound, and those he shipped, sold from eight to sixteen cents per pound. The yield averaged four tons per acre.

Mr. Quimby said he raised about 10,000 pounds of Isabella grapes from two acres which were not in full bearing, and he sold them in Rochester for \$500, which he thought paid well enough.

Oliver Chapin only netted two cents per pound for grapes on the vines. This hardly paid expenses. His apple orchard had not paid very well. His apple trees planted thirteen years ago had never brought a crop worth picking. Baldwin trees twenty years old had only borne three good crops. He had forced the trees as fast as possible so as to get them out of the way of the borers and of mice. It cost about \$1,000 an acre to cultivate an apple orchard twenty years without cropping. He hoped his apple orchard would pay some time, but it had not yet.

Mr. Chapin had made considerable profit from Bartlett pears—more than he could have made from ordinary farming or grapes. He only grew the Isabella; one-half the seasons he got a good crop. The profit had been good. This year, at two cents per pound, it paid as well as a wheat crop. The average price, until this year, was five cents per pound as they hung on the vines. The profit had been at least one hundred dollars an acre, which was better than any other crop.

Mr. Barry, of Rochester, thought much depended on the marketing of fruit. Grapes sold last fall at one and a-half or two cents per pound, while if they had been kept a month later they would have brought five or ten cents a pound. He thought Mr. Chapin's apple orchard was exceptionally unprofitable. He averaged \$9 a barrel for pears, which was very profitable. He sold two barrels of Lady apples at \$15 each, and if he could have kept till Christmas, he could have got much more. He had sold Josephine De Malines pears in winter for as high as \$25 a barrel.

Mr. Brooks thought the apple was worth all other fruits, but other fruits should not be neglected. Fruit growers should not be discouraged by a few failures.

Mr. Quimby said the demand for grapes at this season of the year was very great, and they would command an extra price. He wanted to know how they could be kept.

Mr. Babcock kept grapes for family use, but not for market. Some varieties would not keep well. The Delaware and Concord were of this class.

Isabellas, Catawbas, Ionas and Rogers' Hybrids are mostly good keepers. If packed in boxes they should be kept in a cold room—not freezing—and covered with something to absorb the moisture.

Mr. Jones, of Geneva, thought we should study the tendency of the market, so that we could forecast the probable demand. We are to compete with California fruits grown at low rates. Here we should turn our attention to long keepers. The perishable varieties of fruits have not been profitable. The Bartlett is so poor a keeper that it is very liable to over-production. We should rather select some varieties of pears that were better keepers.

Mr. Quimby said he had succeeded well in growing pears on sandy soil, with sandy sub-soil. When he bought the place, five years ago, the pears on the place were rapidly drying from blight. He checked the blight by applying one or two bushels of leached ashes around each tree. Others had received the same benefit from leached ashes.

Mr. Craine said that the pear blight had not been so destructive for two or three years.

Mr. Hooker thought fruit growers should be patient and wait. If Mr. Chapin had not kept his trees so thrifty he would have realized more profit from his apple orchard. The fruit crop was liable to glut, but the glut could never last long.

Charles Downing said if he could have but one pear it would be the Beurre Bosc. His second pear would be the Beurre D'Anjou. With him pears had succeeded better than apples. The Lawrence and Dana's Hovey were named as additional pears.

Mr. Barry, Jr., said the Josephine De Malines was a very profitable winter pear, and sells now in New York at \$20 a barrel. The tree is a good grower and bearer. Its fine glossy skin makes it more valuable, though many other winter pears were nearly as good. He thought a committee should be appointed to test winter pears. Everybody was planting Bartlett pears, which came into market just at the same time with Southern peaches, and sold at a low price.

Mr. Moody, of Lockport, sold Beurre D'Anjou at home for the Boston market at \$20 a barrel.

Mr. Beadle said these same pears sold in Boston at \$34 per barrel. The tree is a moderate bearer, and succeeds best on the quince.

Mr. Yeomans said the Beurre D'Anjou did best on the quince. He sold his best at \$20 a barrel.

Mr. Chapin sold all his Bartlett pears last year for \$9 a barrel, for his entire crop. The Duchess D'Angouleme, carefully selected, sold at \$20 a barrel. He thought the Bartlett pears were a profitable crop.

Mayor H. T. Brooks said that apples for marketing should be divided into at least three classes. Our northern species should sell for twice as much as some other

varieties which are not so good. Dealers should pay more for Fameuse and Spitzenergs than they do, and make them as profitable as the Baldwins and Greenings. By throwing away all the poor apples, we could get twice or three times as much as we do now.

Mr. T. G. Yeomans, of Walworth, said, while buyers paid as much for poor as for good, no one would take the trouble to sort them. A fruit grower must either cheat or suffer. He never had sold any apples in the local markets. The farmer who has his apples once opened in the village market can never after get a full price for them. He believed in mixing two qualities of apples. This year apples are so cheap it would hardly pay to sort them carefully, as the first quality paid a little more than the second quality. He shipped to New York, and got better prices for first-class apples there. Each producer should put his name on the barrels.

Express and railroad companies should be required by public opinion to handle choice fruits carefully. He had hired a through car to have grapes and pears carried to New York, but it was overhauled at Albany and the fruit seriously damaged.

Mr. Quimby said that the fruit growers' trials from express companies were such that he had almost despaired. He had to desist from sending grapes to New York city on this account. He hoped this Society would pass resolutions.

Mr. Moony—After we have packed fruit more carefully we should insist that it must be carried better. The trouble was in the method of packing, which was unfair and dishonest. When the Lake Ontario Shore road is put through, railroad agents will be more careful and accommodating.

Mr. Thomas suggested putting up fruit in smaller packages, and packing more carefully. He would pack in half barrels or even smaller measures. He thought that the discussion on apples was discouraging to those who proposed planting.

Forest Trees.

Mr. Harrison, of Painesville, Ohio, was asked to discuss the propagation of forest trees. He is largely engaged in propagating the American chestnut.

Mr. Lay thought the subject of cultivating forest trees was not of much importance here. In the western prairies the growth of forest trees was important.

Mr. Thomas thought that crops and fruit crops were benefited by shelter of woods. At present prices of locust posts an hundred acres planted twenty years would be worth one hundred thousand dollars. He thought the planting might be made profitable.

Mr. Harrison said that chestnut trees planted only ten years would grow to a size of one foot in diameter and a proportionate height. The wood is used for furniture and finishing inside work in buildings. The trees will begin to bear nuts six years after planting.

Mr. Downing had chestnuts in bearing five years from planting.

Judge Warner said he had planted the Spanish chestnut, which bore in four years after planting. The common chestnut will grow in twenty years to a diameter of fifteen or sixteen inches. The common chestnut is not so rapid a grower as the birch or silver-leaf maple. Trees from a nursery are better for transplanting.

Among the Flowers; or, Gardening for Ladies.

BY ANNE G. HALE.

VI.

Everlasting Flowers and Their Management.

NO flower garden should be considered complete without an assortment of everlasting or eternal flowers. For their retention of life-like appearance long after the season of growth, and, if properly gathered and dried, their ability to endure great exposure, are qualities valuable enough to entitle this modest sisterhood to as much attention as we pay their more beautiful, yet fragile and fleeting, relatives.

Though devoid of fragrance and of such harsh tissue as to be unsuitable for hand-bouquets, they are very desirable as vase-flowers, and for wall-decorations and other ornamental purposes, especially when living flowers cannot be procured, or, from their susceptibility to decay, would be inappropriate. On festive occasions, within doors, during the winter and early spring, and in all seasons out-of-doors, the continual brightness of their presence is always agreeable; while, for cheering funeral solemnities, or for adorning the burial-places of the dead, their unwithering properties, typical of the unchanging love of the bereaved, and also reminding us of the imperishable glories of the eternal world, seem peculiarly fitted.

The foliage of these plants, of a more succulent nature than their blossoms, withers in drought, and falls at the touch of frost; hence, its place must be supplied with other verdure when the dried blossoms are taken for decorations. This the evergreens furnish; the club-mosses—*Lycopodiums*—suiting well the character of the everlastings. *Lycopodium selago*, the fir evergreen, and *L. dendroideum*—boquet-green, as it is called, because of its extensive use in making bouquets of fresh flowers—are the best for this purpose. They grow in damp woods, particularly among pine trees, and among the roots of hemlocks and spruces. If gathered at any season, and kept in a damp, shady place, they retain their liveliness of hue as well as if growing in their native soil; but the autumn is the best time to secure them—then they are at maturity. They adapt themselves well to cultivation in moist soil, in shady situations, if covered with dead leaves through the cold weather.

Great quantities of lycopodium are in demand in early winter for Christmas decorations, both of churches and dwellings, and the manufacture of memorial devices for the cemeteries. These are generally made entirely of evergreens, or sparingly illuminated with the dried everlastings; as in this crown, where a few immortelles are introduced amid the green with fine effect. Emblems like this can be obtained at the flower stores; or their uncovered frames—wreath, half wreath, cross, crown, anchor, and other shapes—can be procured at the same place, and the evergreen and flowers easily arranged upon them at home by any lady, who will doubtless find it a pleasant task to weave with her own fingers the verdure she has gathered and the flowers she has herself



raised into these offerings of reverent affection for the last resting-place of her loved ones.

The frames are of stout wire, or of light wood, sometimes overlaid with silver paper or tin-foil; but a coating of green cambric or paper is preferable. To cover a frame, hold it in the left hand; place a few sprigs upon it, in a row, and keep them there, while, with the right hand a cord is passed over their stems, binding them close to the frame; then arrange another row, in such a manner as to hide this cord and the stems of the first, as well as the material of the frame; and so add row after row, mingling flowers with the green, when desired, till the design is completed. Care must be taken to place the sprigs in such a position that the surface presents an even and slightly convex appearance. To effect this it is best to use the lycopodiums in pieces about two inches in length, and to place but few in each row.

For some floral designs, the everlasting flowers alone are needed. This is the case with the French memorial wreaths and crosses, which are made entirely of graphaliums. Adopting the French familiar name, we call the flowers *immortelles*; but they are the same with our common life everlasting, that abounds in rocky pastures and along country roadsides. *Antennaria* and *Filago*, branches of the same family, flourish in meadows and sterile fields. The most beautiful of these are, *Antennaria margaritacea*, the pearly everlasting; *Filago germanica*, the cotton rose; and *Graphalium decurrens*, white life everlasting. These all bear transplanting to the garden when in bloom, and, if allowed to remain till the autumn winds scatter the seeds, multiply abundantly.

The flowers should be gathered in August—just before they are fully expanded—by cutting the stalks of the plants two or three inches below each cluster of blossoms. Then, to dry them: knot them, three or four inches apart, head downward, along a strong cord, and hang this cord across a dark, closed room. The cup-like form of the pretty rose-shaped flowers is thus preserved, and also their pearly whiteness. In a week or ten days they will be perfectly dry, and ready to shut away from the dust and dampness, in some tight box or basket, till wanted. Proceed in the same manner when gathering and drying any species of everlasting or eternal flowers, or their buds, and they will be of proper shape and color and retain their beauty for years. When used, their stems, being naturally too flexible to manage easily, must be strengthened by binding to broomstraws or small sticks or wires, with a strip of soft paper or a thread. If the flowers are to be taken singly, the clusters should be divided, and each individual stem improved in this way.

So prevalent is the custom of decorating graves with memorial emblems made mostly or entirely of immortelles, that large quantities of the dried blossoms are imported, and can be purchased at any flower store. They can be had in their natural hue—white; or, dyed—black, lavender, purple pink, green, orange or yellow—for they readily take any common dye.

The forms for making this style of crosses, and other designs of immortelles, are usually of wirework, convex or plano-convex, in the interstices of which the stems of the flowers are placed, the whole presenting an even surface—as in this cross and wreath combined. Sometimes two or more colors are used in the same form, being



Group of Everlasting Flowers.

arranged to suit the fancy, in bands, rings, spirals, or any other shape—as shown in the annexed figure of a white cross, having a smaller one of black in its centre. On some forms letters, monograms, or other designs are made of silver paper, and so constructed as to rise above the flowers, appearing as if embossed thereon. All of these designs are for sale at the florists' stores, and any person can easily fill them.

Acrocliniums—*A. roseum*, *A. album*, and *A. alto-roseum*, producing respectively dark pink, white, and light pink blossoms, are very pretty for the garden, or for winter wreaths or bouquets. Plant the seed in May; buds will be seen in August. These are to be gathered and dried before fully expanded, and in the manner directed above for all everlastings.

Ammobium alatum—the winged ammobium of the gardens—needs good soil and a sunny situation. Gather and dry the same as the acrocliniums. It is a very desirable plant.

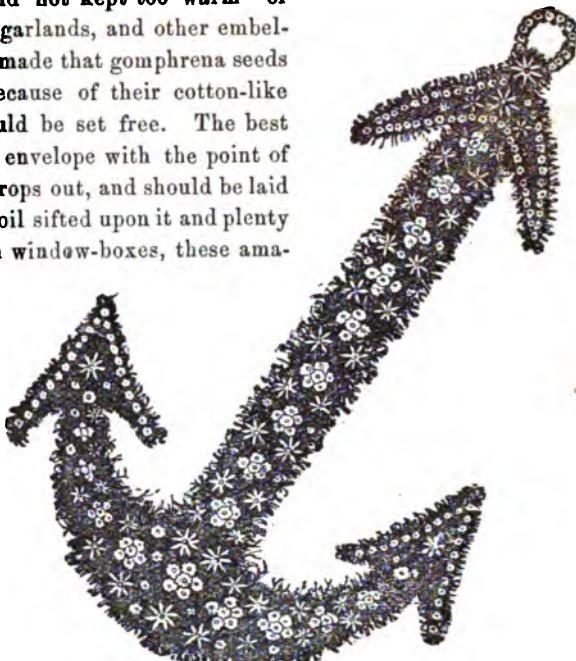
These species of eternals, or everlastings, are excellent flowers to use with immortelles in the fabrication of designs presenting a flat surface, as shown by this cross. A design of this sort is a fine ornament for the parlor wall, or for the church at Christmas, or for a burial-place at any season. If it is intended for out-of-door use the frame should be of wood, and the surface exposed to view covered with lycopodium, or the bright, green wood-moss; the French moss, dried and dyed a brilliant green, may be bought at flower stores. The lycopodium for this purpose should be of the most delicate sort—just its tips about an inch in length—and this or the moss glued to the wood; then, immortelles in clusters, cut from their stalk and glued among the evergreens or moss; and acrocliniums and ammobiums the same, as represented in the cut. The bits of lycopodium should be overlaid neatly.

When such a design is intended for in-door decoration, or can be kept from dampness, the evergreen or moss and flowers can be pasted or gummed to the frame, which will be sufficiently substantial cut from book or box board. Any design requiring great precision and neatness of workmanship, as this anchor—the emblem of hope—the beauty of which depends greatly upon the nicety with which its points are finished, is most properly made of box board, and pasted or sewed, the flowers being immortelles, both separate and clustered; ammobiums and acrocliniums, buds and blossoms.

Gomphrena globosa, the old-fashioned globe amaranth, is as good and as pretty as it ever was for the garden, as a window plant—growing all winter if taken within



doors before the frost comes, and not kept too warm—or as a dried flower for bouquets, garlands, and other embellishments. Complaint is often made that gomphrena seeds do not germinate. This is because of their cotton-like envelope, from which they should be set free. The best way to do this is to open each envelope with the point of a fine needle. The seed then drops out, and should be laid on warm, mellow soil, a little soil sifted upon it and plenty of sun given it. If started in window-boxes, these amaranths gain time for abundance of bloom. This should be done early in spring, and the young gomphrenas transplanted to a garden bed in May. Set them a foot apart. *Gomphrena globosa rubra*, with deep crimson flowers, is the most common, and a fine variety. *G. g. alba*, pure white, is very handsome; also *G. aurea superba*, with orange yellow flowers. But the white should be planted some distance—several yards—from the crimson or the orange, or its blossoms will get discolored and dingy. The blush-colored and red and white variegated are sometimes clear and distinct in their hues, but they cannot be depended upon.



way, for church or parlor walls.

The gomphrenas, especially *G. globosa rubra*, form an elegant contrast with clusters of immortelles in Christmas or in memorial wreaths. The accompanying engraving shows how they should be disposed among the greenery. This style of wreath, its foundation being a ring of stout wire, bamboo, ash, or other light wood, is made in the same way as the crown. (See illustration near the commencement of this paper.) The flowers, however, may be either bound in with the lycopodium, or, after the frame is finished in evergreen, sewed among the sprigs. Letters, monograms and long garlands, or "festooning," are made in the same

(TO BE CONTINUED.)

Beautifying Country Homes.

MMR. WEIDENMAN has done excellent service to the public in his superb work on Landscape Gardening. He remarks, with truth, that "all cannot enjoy the privilege of a stroll in the king of parks, the Central Park of New York. Comparatively, few can view its extended lawns, or its bold cliffs and caves, admire its triumphs of architectural taste, or note how the skilful artist has converted a vast plain into hills and dales, and varied it with lakes and cascades, shady founts and open lawns. But all can make their country homes attractive and lovely, and enjoy the beauties of nature about their own house and fireside."

The present volume is intended by the author specially to show how to lay out a good plan of grounds, with the cost of carrying out necessary improvements, and the yearly expense in keeping them in good order. Connected with all this are the details of choosing a good location; then how to secure a perfect drainage; next, the construction of roads, and their grading, and finally how to plant the shrubs or trees, and how to seed or dress down the lawns. All these points occupy forty pages of the work, which is divided somewhat as follows:

Seeding down Lawns gives the best varieties of grasses, and he advises selections as follows:

For Fine Lawns Frequently Mown.

Crested Dogs Tail.....	10 pounds.
Hard Fescue.....	4 "
Slender Leaf Sheep's Fescue.....	2 "
Perennial Rye Grass.....	10 "
Wood Meadow Grass.....	2 "
Rough Stalked Meadow Grass.....	1 "
Yellow Oat Grass.....	1 "
June Grass.....	8 "
White Clover.....	8 "
 Total.....	 46 "

For Permanent Lawn Pastures.

Meadow Fox Tail.....	1 pound.
Sweet Scented Vernal Grass.....	1 "
Orchard Grass.....	3 "
Hard Fescue.....	2 "
Sheep's Fescue.....	2 "
Meadow Fescue.....	2 "
Italian Rye Grass.....	6 "
Perennial Rye Grass.....	4 "
Timothy.....	7 "
Red Top.....	8 "
Rough Stalked Meadow Grass.....	8 "
Yellow Oat Grass.....	1 "
Red Clover.....	2 "
Perennial Red Clover.....	2 "
White Clover.....	4 "
 Total	 43 "

This, we suppose, he intends to be the application to each acre, to be sown early in the fall, say September. As an illustration of a beautiful lawn the enclosed sketch is introduced, representing the pleasure grounds of H. E. Sargent, Esq., Southampton, Mass.

One of the most valuable chapters is devoted to Drainage, excellent plans being given for the position of the drains and their outlet. Suggestions are given on the making of roads, drives and walks, and plans for laying the curves or grades properly. We are glad to see a chapter on fences, walls and hedges.

He expresses great favor for *wire fences*. "They have been rapidly adopted in Europe, and special attention was paid to them at the late Universal Exhibition in Paris. Their durability, lightness and little cost, place them above all others. Being almost imperceptible, they do not obstruct the view on ornamental grounds, while they possess all the desirable qualities of a good fence. They will soon gain the favor here they merit."

"Picket fences are objectionable for truly ornamental purposes. They are costly, requiring, if well kept up, annual painting, frequent repairs, and rebuilding; and if kept in the best order, are repulsive as well as stiff and unnatural."

We can hardly endorse his objection on picket fences, for there is a kind of ornamental architecture in their construction and appearance which more than makes up for the often time barrenness of duration inside. Wire fences are very suitable as side divisions of land and lots, but not for frontage purposes. The best of all fences is a neat, well-trimmed hedge, and we can heartily join him and his commendation of their use.

Six pages of the work are devoted to a list of trees and shrubs, deciduous and evergreen, very convenient for reference. Some practical examples are wisely given upon the important subject of *grouping*. One of the most beautiful illustrations of the entire work is that of a vase with a dense back-ground of low shrubs and latter evergreens, neatly grouped together.

After a few practical directions about transplanting trees and shrubs, he introduces some charming views of water scenery, rustic seats, rustic pavilions, plans for flower gardens and burial lots. The larger part of the work is occupied by colored lithographic plates of plans for laying out places of small or large extent, exceedingly well executed, numbering twenty-four in all. This work fills a special field in volumes devoted to rural ornament. Its colored illustrations are attractive, new, and representative of many existing examples of landscape gardening. The author estimates and hints—given in a better form than can be gained elsewhere—some practical idea of what will be the cost of improving and adorning one's home grounds.

We are indebted to the publishers, Orange, Judd & Co., for the accompanying illustrations, which are selected from the pages of the book.

Editorial Notes.

A Home among the Evergreens.

A pleasant visit of an hour or two was afforded us lately at the farm and nursery grounds of Robert Douglass & Sons, Waukegan, Illinois. Mr. Douglass' residence is surrounded on all sides by evergreens, and windbreaks of various descriptions, and the contrast betwixt the roaring piercing wind without, and the calm mild air within the charmed hall, gave a feeling of great comfort. We see here specimens of the Larch, Norway Spruce, and numerous Pines as ornamental trees. Some of them are of remarkable growth. The Larch is particularly noticeable for the circumference of its trunk close to the ground, and the Norway Spruce for its stateliness and graceful drooping habit.

The firm occupy four farms of twenty-three acres each, in their nursery operations, of which sixteen acres are under shade, covered over with evergreen boughs suspended by cross bars and timbers nailed to posts set fifteen feet apart over the entire seed bed. Here were seen young trees one year old of Norway Spruce, Scotch Pine, Austrian Pine, Larch, &c., in great profusion. The firm raise 10,000,000 plants of the European Larch every year, and other plants by the millions also not to be counted. The largeness of their trade may be estimated from the fact that they import and plant yearly 2,700 pounds of tree seeds.

One peculiarity of the tree trade, which is now assuming vast proportion, is that so much trade is sought for from the East. One lot of 50,000 plants of the Mountain Ash was ordered as far east as Lowell, Mass., while shipments are frequent as far as Geneva and Central New York.

This looks as though our Eastern people must have skipped beyond our Eastern nurseries and found it more advantageous as well as economical to send to the distant West for their supplies. It indicates, however, a growing taste for tree planting all over the country, which is very encouraging.

Still another peculiarity we learned, and that is, Pear seed can be imported from Europe, planted on the Western prairies, and plants raised and sold at about one-third cheaper than the same can be done in the East.

This nursery of Messrs. Douglass & Sons is the largest in the country, and they inform us that the trade develops with astonishing rapidity every year.

Western farmers seem to have settled quietly down to the conviction that fruit trees cannot be successfully and profitably grown without first planting a cordon of timber trees, belts and screens to protect them, while others seem to recognize the *money value* of trees, and enhance the worth of the property a hundred fold, by the free planting of ornamental as well as useful trees.

The Messrs. Douglass are doing an excellent work.

Barry's Fruit Garden.

A new edition of this old standard volume will be issued the coming summer. Mr. Barry has revised it and added much new matter and illustration. It is a work we have always held in high appreciation, and are glad that its author has at last been induced to re-issue it in an improved form.

Beautiful Floral Plate.

The new Catalogue of Mr. John Saul, of Washington, D. C., contains a colored plate of two new Geraniums, Lady Edith and Coleshill. The plate is superbly colored and printed, and is by far the finest specimen of floral lithograph work we have ever seen in this country.

Pacific Rural Press.

Messrs. Dewey & Co., of the *Scientific Press*, San Francisco, Cal., established a Weekly Family and Rural Journal, in California, about six months ago. Mr. W. H. Murray, one of the firm, informs us, while here on a visit, that it is a complete success, having attained the largest circulation of any Agricultural paper on the coast,

and is in a prosperous condition. Without flattery, we express our candid conviction, that it is the best edited Agricultural Journal of that State, and alive to the important subjects of the times. Its pages are always pleasant and instructive. Price four dollars per year.

Failure of Agricultural Journals.

The Rural Gentleman, Baltimore, Md. *The American Farmer*, Baltimore, Md.

Changes.

The Southern Horticulturist is now changed from magazine to quarto form, its name to *Swazey's Southern Gardener*, and its price to two dollars per year.

Briggs' Colored Chromo,

sent us by Briggs & Bro., Rochester, N. Y., contains forty-three varieties of flowers. Some of them exquisitely colored. Really a fine and desirable colored plate. The new Floral Catalogue of this firm contains 112 pages of closely printed matter, and is embellished with over 400 illustrations entirely new. It is not generally known that this firm does the largest business of vegetable seeds in packets for country stores, in the entire United States. Their business is very profitable.

Clinanthus Dampieri.

John Saul says, in his Catalogue, that "the seed will be found more satisfactory than plants. Sow in a warm situation out doors, about the middle of May ; do not transplant nor attempt to grow in pots. If sown in a moderately rich, dry soil, it will spread considerably over the ground during the summer, giving a constant succession of its beautiful flowers, which are large and gracefully drooping clusters of brilliant self-crimson scarlet flowers, marked with a rich black boss-like blotch in front."

News to Florists.

A writer in *Harper's Bazar* says, "the florists of this country devote but little attention to this branch of floriculture (roses.)" This is certainly news to us, for it is well known that roses are always a staple stock in trade in every well regulated green-house or floricultural garden. Some even make the culture of roses a leading speciality, with eminent success. And all admit that roses form one of the most favorite purchases of ladies, and usually at very remunerative prices.

The same Journal adds : "We would, however, caution our amateur gardeners not to buy grafted roses, whether as standards, half standards or dwarfs. In Europe it is the universal practice to bud or graft roses in this way ; the florists do this in order to multiply a new variety more rapidly than they could otherwise do it, as every bud will produce a plant. The standards and half standards have a miserable existence for two or three years, and then die, our hot sun making the tall stem so hide-bound that at last the grafted top can get no supply of sap through it. Tying moss around, and similar devices have been tried to obviate this difficulty, but they do injury in another way, by excluding the air from the stem, which is almost as injurious as the heat of the sun. Roses budded as dwarf, are as a general rule, a nuisance, for the stock has a constant tendency to throw up suckers, which, if not immediately removed, rob the graft ; and even with this care, the continual endeavor of the plant to expand its energies in this way, is a great drawback to the proper development of the graft. Some say that many varieties produce finer flowers or stocks than they do on their own roots, to which we have only to say, that a rose which, with good cultivation, will not produce fine flowers when grown on its own roots, is not worth having for general cultivation."

How to plant Pear Trees.

The holes should be a foot deep and three feet across ; they may be mostly made by the plough or by the spade, as each person finds handiest. For standards twelve to sixteen feet, and dwarfs ten feet apart, gives sufficient room for them to grow in

ordinary soils. It will require 226 trees of the former, and 435 of the latter, at these distances for an acre. Two persons are required to set trees where there is any number, one to hold the tree upright; shake it gently up and down to settle the soil around the roots, and when the hole is half filled, to tramp it firm; the other to shovel in the earth, the fine top soil around the roots, the subsoil on the top; broken bones and ashes may be mixed in, but no manure should be allowed to come in contact with the roots; if it is used, place it on the surface, around the tree. If the roots are broken or bruised, trim them with a clean cut from the underside, and if the roots are not entire, prune the top so as to establish the balance in favor of the roots. Standards should be set two and dwarfs four inches deeper than they stood in the nursery, so that in the latter case the pear stock may throw out roots and become standards.—*Watertown Times.*

Cure for the Peach Borer.

M. B. Batcham says, that after two years trial of Carbolic Soap, he feels quite safe in recommending its use as the cheapest and best method yet found for the prevention of injury by the peach borer, and presumes that it will be equally as efficacious for the apple borer. His method of using is as follows: "Take a five pound can of the soap (costing only \$2), and turn it into a barrel one-third full of hot water; stir it occasionally and let it stand a few hours, or over night, for the soap to dissolve; then fill up the barrel with cold water—or I sometimes use soapsuds from the kitchen for this purpose. The liquid is now fit for use. It is of a milky appearance, and pungent but not offensive odor. It is too strong for using on plants, but will not hurt the bark or wood of trees, applied with a paint brush around the base of the trees, taking care to have the liquid enter all crevices; it immediately destroys all the insect-eggs that have been deposited, and any young worms which have not penetrated further than the bark; and I believe that for some weeks at least, unless heavy rains occur, the odor prevents the moth from depositing eggs. One application in July or early in August is sufficient. The barrel of liquid described is sufficient for a thousand trees of bearing size, and an active lad can do the work in two days."

Mr. Batcham's suggestions are valuable, and we endorse his method, but think five pounds is too much for one barrel; it had better go over two barrels. If this strong liquid, in one barrel only, comes in direct contact with any tender roots, it will surely kill them; but if dissolved a little more, then it will do the same work of destruction to eggs, with less danger to the trees.

Salvia Splendens.

Mr. Henderson says, "this is perhaps the most gorgeous plant of our gardens; single plants often attain a height of six feet, and nearly as much in diameter, having a hundred scarlet plume-like flower spikes; the color is so intense when seen against a green background, that it is often visible at the distance of half a mile. Seeds sown in April in the green-house will flower in July and August."

Lady Banks' Rose.

The Agriculturist says: "The Banksian Rose was so named in honor of the wife of Sir Joseph Banks, upon its introduction from China into England in 1807. The plant is a vigorous climber, attaining the height of thirty to fifty feet. Unfortunately it is not hardy in the Northern States, but our friends at the South can avail themselves of it as a most charming plant with which to ornament the pillars to their verandas. The flowers are only about half an inch across, and grow in clusters, which are produced most profusely. It blooms only once a year."

Pruning Spiraeas.

It may not be generally known that the different varieties of Spiraeas must not be pruned at the same period, and that the success in bringing their blossoms to great-

est perfection will depend on the time chosen for this operation. We therefore give the following list, noting the time when to prune, compiled by Mr. Billiard, the best authority for this species of shrubs :

1. Varieties to prune in early spring : *Spiraea Salcifolia Alba*, *Rosea*, *Laciniata*, *Billiasii*, *Longiflora*, *Canadensis Rosea*, *Canadensis Alba*, *Douglasii Floribunda*, *Corymbosa*, *Regeliana*, *Semperflorens*, *Fortuni (Callosa)*, *Paniculata*, *Alba*, *Folivariieg*, *Excinnia*, *Californica*, *Tomentosa*, *Rosea Grandiflora*, *Pachystachys*, *Noblesa*, *Gontieri*, *Californica Species Nova*.

2. Varieties to be pruned after they are done blossoming : *Spiraea Thalictroides*, *Sorbifolia*, *Picowensis*, *Ariaefolia*, *Nicondertii*, *Aquilegifolia*, *Sinensis*, *Expansa Nivea*, *Lindeyana*, *Opulifolia*, *Laevigata*, *Bella Rosa*, *Prunifolia*, *Prunifolia Flora Pleno*, *Lanceolata (Reevesii)*, *Reevesii Flora Pleno*, *Reevesii Nova*, *Ulmifolia*, *Pubescens*, *Crenulata*, *Cana*, *Adiantifolia Chamædryfolia*, *Blumii*, *Kamoona*, *Kamoona Spicata*, *Rupestris*, *Alpina*, *Oblongifolia*, *Amoena*, *Hypericifolia*, *Procumbens*, *Grandiflora (Exocordia)*, *Speciosa*, *Confusa*, *Thunbergii*, *Hookeri*.—*The Ruralist*.

Strawberries.

Louis Ritz mentions the following as the best of his collection, and also prescribes the soil best suited for their culture :

Fillmore, P.—Large to very large; productive; dark color; showy; sweet; rich apricot flavor; rich stiff clay.

Boyden's No. 30, H.—Large to very large; very healthy plant; productive; sprightly; acidulate; juicy; rich sandy or clay loam.

Chas. Downing, H.—Large, productive, juicy, sweet, excellent; rich clay loam, rather compact.

Triumph De Gant and Romeyn's Seedlings.

I place these two, as similar in every respect, under one heading; the only difference is, that the Romeyn proves a better bearer, under every treatment, than the Triumph. Large, productive, juicy, with a rich, peculiar, aromatic flower; rich clay loam.

Kentucky, H.—Very late; productive; large; acidulate; not high, but good flavor; clay loam.

Napoleon III., H. Large; productive; slightly acidulate; very aromatic; rich clay loam.

I speak thus far of amateurs who want to plant several varieties. Some of our readers, however may only be able to allow a small space to a strawberry bed, and they may do better with one variety. If their soil is sand with sandy loam, they may plant the Agriculturist or the "Green Prolific," the former being of rather better flavor, the latter more acid, but at the same time more showy and immensely productive. Pistillates should be planted among hermaphrodites, and the proportion should be ten of the latter to one hundred of the former. It is immaterial whether they stand close or ten to forty feet distant, as the wind will carry the pollen.—*Louis Ritz.*

Borders for Cold Grapes.

Dr. Nichols, of the Boston *Journal of Chemistry*, made an analysis of the ash of home cuttings of a Black Hamburg Grape vine, with the following results: Potash, 29 parts in 100; phosphate of lime, 19 parts in 100; carbonate of lime, 13 parts in 100; soda, 8 parts in 100; magnesia, 4 parts in 100; with small quantities of iron, manganese, silex, etc. The fruit evaporated to dryness, and ignited to obtain the ash, gave of—potash, 34 parts in 100; phosphate of lime, 11 parts in 100; carbonate of lime, 9 parts in 100, with small amounts of earthy substances. From these results he finds mineral food, which the vine and its fruit require in the largest quantity, is, first, potash; second, phosphoric acid; and, third, lime. For a border of thirty vines, at least a barrel of bone dust and six to eight of ashes should be used; about three

pounds of Epsom salts (sulphate of magnesia) and five of sal-soda (carbonate of soda) will be required for each barrel. A layer of soil should be placed between each two layers of the bone, ashes and lime. The layers of ashes should be thicker than of the bone dust.

Window Gardening.

A lady gardener says: "No plants ever gave me more pleasure, for winter flowering, than the maple geranium and the crocuses and hyacinths I had last winter. I place part of my hyacinths in glasses, with well water enough to just touch the bulbs, and let it remain until the roots reach the bottom of the glass, unless it begins to look woolly, when I change it; then I bring them out of the dark cellar and keep them in a room that will not freeze, changing the water once a week, and being careful to have it of the same temperature put in as that removed. The remainder of my hyacinths and crocuses for winter I put in boxes, small pots, etc., containing sandy soil, and let them remain until the roots are well started; then bring them up; water occasionally with liquid manure, and after the hyacinth trusses appear, sprinkle daily."

Grimes' Golden Apple.

This is growing immensely in popularity. Nurserymen tell us that the stock is rapidly sold and orders are unlimited. This is very flattering to the introducer, and yet not more than it deserves. The fruit is certainly excellent—a good keeper, and of good quality. Those who want to plant a tree *sure to bear* had better look after this.

Profits of Chestnut Raising for Nuts and Timber.

An acre of chestnut trees planted for timber will accommodate about 1,600 trees. In ten years' time they will be worth from \$1 to \$3 per tree, or \$1,600 to \$5,000 per acre. But if planted for nuts, at 20 feet apart, there will be 100 trees, each good to yield one-half bushel to each tree, or, at \$5 per bushel, \$250 per acre. Add to this the value of each tree for timber purposes, and in less than ten years' time a fortune is available for any enterprising timber planter of 50 or 100 acres, of from \$25,000 to \$100,000. Why are our people so slow to appreciate the necessity and profits of forest tree culture?

Select Small, in Preference to Large, Evergreens.

The growth of small as compared with large trees, transplanted at the same time, produces some very curious results, which might puzzle those not sufficiently familiar with horticultural science. We have a good example at hand. An experienced horticulturist says: "About twelve years ago a large evergreen was transplanted by a friend of ours into his garden. It was about twelve feet high, and great care was taken of it. At the same time we set out a small one, about eighteen inches in height. Now, what do you think is the difference between the two trees at the present time? The large tree has grown about four feet. The small one is twenty feet high. The large one has become the small, and the small the large. It is a good illustration of the imprudence of selecting too large trees. If we could plant seeds of the trees we desired, in the places where we wanted them to form an orchard, such trees would be more healthy and much longer-lived than transplanting trees can be; but this is a condition of things not easily attained. We should, therefore, adopt the nearest approach to it, and set our young, thrifty plants, with all their fibrous roots untrimmed, that will adapt themselves to the conditions in which they are placed, and that will, in the course of time, form a valuable orchard. Could we take up large trees with their roots, and a ball of earth with each tree, then such trees would not meet with a check, and a gain of time would be the result; but this is seldom the case, and the better course is to plant out small specimens."

Double Purple Wistaria.

Francis Parkman says, in *The Journal of Horticulture*: "Several years ago we received from Japan a small plant in a pot. It was without name, but was evidently

some species of Wistaria. It grew with the greatest vigor, till its longest shoots measured more than thirty feet from the ground. Last season it bloomed for the first time. From the character of its foliage we had supposed it to be the white variety of *W. sinensis*, and we were almost as much surprised as gratified when we saw it hung with long pendent clusters of perfectly double flowers, a shade deeper in color than the common single Wistaria. In short, we found ourselves in possession of a novelty of the first order, which, so far as we know, has not yet appeared in the catalogues of any European nurseryman. The depth of the color of the flowers, the compactness and length of the clusters, and the vigorous, hardy character of the plant—which has stood three winters totally unprotected, and without the slightest injury—make it an invaluable addition to the list of hardy climbers."

Grafting Grape Vines.

At a recent meeting of the Horticultural Society of Western New York, D. S. Wagener gave a description of the method he adopts in grafting the grape vine. He grafts from early spring till last of June. The grafts are cut early the previous winter and packed in saw-dust. He grafts a little below the ordinary surface of the ground and covers with earth. The moisture of the soil is preserved by two inches of mulching. The cleft is sawn in without splitting. He has set the Delaware and Isabella roots with good success, and in one instance had a crop of grapes the same year. A strong stock desirable, such as Isabella, Catawba and Diana. The Rebecca does better on a strong stock than on its own roots.

Plant More Standard Pears, and Less Dwarf.

A correspondent of the *N. E. Homestead* writes as follows: "I was told that Louise Bonne and Duchess were better on quince, with some others, as Napoleon, d'Amalis, Belle Lucrative, etc. I purchased them and set them carefully, mulched, hoed and pruned, and ate of the fruit. I set at the same time standards of Bartletts, Flemish Beauties, d'Anjous, Seckles, Virgalieus, Winter Nellis, Vicars, etc. Now, after fifteen years, where are the dwarfs, and where are the standards? Most of the dwarfs have gone under, and most of the standards are doing well, and one of the standards is worth to-day more than all the dwarfs I ever planted, and I have set hundreds. I have budded dwarfs, and bought dwarfs, and fine ones, too; have given them the best ground and best care, yet failed almost entirely. I say, Mr. Editor, I have no patience with a dwarf in fruit culture or mind culture; the return is meagre and unrequiting. I have tried dwarf peaches, cherries and apples; all are delusive. Apples dwarfed might pay if the fruit would bring \$5 per bushel, for they seem hardy. Now for the standard pears. I have had some seventy-five or eighty varieties in my garden. The Bartlett, Flemish Beauty, Napoleon Rostiezzer and some others are scarcely more tardy in coming into bearing on their own stock than on quince. Just give them a good start and they will go ahead, outlive us and the next generation."

Editorial Note.—Dwarf Pears in the Middle and Southern States are a great success, and very profitable. In the Eastern States, we have no doubt, standards are far more satisfactory than dwarfs.

Gardening in Germany.

Erfurt is called the "Garden City of Germany." The area devoted to horticulture in and around that city is 1,200 acres, of which 400 are market gardens. There are twenty-seven men who do a wholesale trade, besides 120 market gardeners, who employ, in all, over 500 hands. Over 300,000 catalogues and price lists are annually printed.

Curiosities of Plant Life.

A farmer once noticed that some elm trees, growing by the roadside, sent their roots into his wheat field, and robbed it of its best fertility. To obviate this, he dug a deep trench between the elms and his field, and all the roots running in the

latter, were chopped through. However, in vain. The severed roots now struck downward on this side of the trench, reached the bottom, and undermining it, passed through the clay and came up on the other side of the loam, and thus regained for themselves their former domain, the wheat field. The farmer did not make a second attempt; the elm trees with their knowledge amazed him, and he resigned to them exclusively that strip of his field.

New Lilies.

The Florist and Pomologist speaks of several new lilies. "One of them is the *L. tigrinum Fortunei*, introduced by Mr. Fortune from China. This is remarkable for its vigorous growth, and its immense head of flowers, which branches out in three successive series from the main stem, by which the blossoming season is prolonged. Another is the *L. tigrinum Splendens*, introduced to public notice by M. Van Houtte, and which in its taller stature, and ample branching inflorescence, bears considerable resemblance to the *Fortunei*, but is said to differ somewhat in color, and in the fewer and more prominent spots on the perianth. Both are grand additions to the groups of bulbous plants."

Apples in the North-West.

A correspondent of the *Chicago Tribune* says: Last week I spent half a day in the Chicago apple market. The result was that, out of more than 2,000 of known named varieties, two varieties stood prominent, nearly monopolizing the market; the Baldwin and Rhode Island Greening, or Greening for short. Esopus, Spitzemberg, Northern Spy and Roxbury Russett, came next. Five varieties composed the list. An occasional barrel of Yellow Bellflower, Black Gilliflower, etc., composed the entire collection; not twenty in all. I did not see an Illinois grown apple in the market, Michigan and New York supplying the market. In those States the crop was an unusually good one the past season, while west of the lakes the crop was of an inferior quality, and has been used to supply the local demand. The prairie orchards would have shown Jonathan, Winesap, Ben Davis and Willow Twig. If the great apple regions of New York and Michigan can afford to grow only fine varieties for market, we can certainly be content with what we have, until others shall have been tested. The man who plants the new varieties, as a general thing, must buy his apples. It is this mania for new varieties that has done more to ruin Western orchards than all other obstacles put together.

How to destroy Insects in your Orchards.

The address of J. W. Robson before the Jo Daviess County (Illinois) Horticultural Society, has some excellent points relating to orchard culture, and especially the depredations of insects, and he recommends every orchardist to observe these few details every season:

"1st. Encourage the black-cap titmouse and the hairy woodpecker, which destroy the insect in the pupa state.

2d. Light small bonfires in the orchard, on dark nights, after the sun has set. This will destroy the moth.

3d. Pick up wormy fruit as soon as it falls, run it right through the cider mill, or throw it to the hogs to be eaten.

4th. Strips of woolen cloth tied around the trunks when the trees are in bloom, and examined twice a week, will destroy those that have escaped and crawled there for shelter. They will be found generally in a transformation state, between worm and pupa.

5th. Place a bunch of weeds or soft hay in the crotch of the tree at the same time, and examine frequently. You have only to look at these dishes of beautiful fruit, to see how this insect destroys the appearance and lessens the market value of the apple.

Brother Horticulturists, up and be doing, bearing in mind that eternal vigilance is the price of handsome, perfect fruit!"

Distance for Grape Vines.

The proper distance apart to plant grape vines will depend very much upon the system to be adopted in pruning and training. We think that eight feet by six is enough room to give any variety; but others think differently, and advise planting sixteen feet apart. If a man owns plenty of land, and wishes to count acres of vineyards instead of tons of fruit per acre, then wide planting is just the thing for him to do. But we have always noticed that the more experience a man has, both in study and practice, the less likely is he to spread a few vines over a great deal of land. Plant close, and prune close, and thereby receive an early return on your investment, and at the same time keep your vines under control. This advice is given because asked for; but it would be well for you to expend a few dollars in books on grape culture, and study principles as well as the practice of the various writers on this subject.—*Ex.*

Ohio Everbearing Raspberry.

A writer in *The Country Gentleman* vindicates the Ohio Everbearing Raspberry. He says: "Its habits of bearing moderate crops during the latter part of summer, caused it to be designated 'Everbearing.' The everbearing varieties have not generally given satisfaction to profit-seeking cultivators. Had it been known simply as the 'Ohio,' and been planted and cultivated for one crop early in the summer, as with the Doolittle, Philadelphia and others, it would have made for itself a reputation second to no other variety for hardihood and productiveness. We have grown it for some fifteen years, and it repeatedly yielded at the rate of one hundred bushels per acre, and then carried a moderate crop later in the summer on the current season's growth of cane. We planted three feet apart in the row, and rows seven feet apart; cut the canes back in the spring to three and a-half feet, and secured to horizontal poles. For their yield during the regular raspberry season we put them against all others—then we have the summer and autumn yield beside."

Another writer in the *Ohio Farmer* says: "I was reading somewhere an opinion expressed that the everbearing raspberry is a poor bearer, but my experience does not accord with this, because for the last ten years I have had a full supply for three successive months, save the season just past, when the crop was greatly injured by the drouth. I believe that twenty hills of the everbearing raspberry will supply any common family. I have tried eight or ten other kinds, but find none so good as this. The fruit is black, well flavored, and bears from the last week in June until the middle of October."

The Trophy Tomato.

George W. Wilson, of Ohio, writes to *The Rural New Yorker*: "Last spring I received a package of the Trophy Tomato seed, which were planted in a hot-bed, and the plants grew vigorously. The fruit ripened very early. One tomato, not the largest on the vines, measured sixteen inches in circumference. Most of the tomatoes are smooth as an apple and very solid, containing few seeds, and cutting like a round of beefsteak. To sum up—the vines are vigorous growers and enormous bearers, while the fruit is large and smooth, ripening unusually early and being very solid, so that little goes to waste in cooking; and in flavor it is all that can be desired."

Killing Currant Worms.

Mr. J. L. Stickney, of Wauwatosa, Wis., says a neighbor applied *Paris Green* to his bushes. It was mixed with four times its weight of flour, and very thoroughly applied; it killed the worms, sure enough, but it killed the plants also. He adds, however, the following comments:

Should I have occasion to again use the Green, I should mix with ten or fifteen times its weight of freshly slackened lime, or if this was not at hand, with fine ashes, and apply more sparingly. The Green should, of course, only be applied to young plants where there is no fruit.

When circumstances are favorable, very good execution may be done by shaking

the worms on the ground when the sun is shining very bright and warm, say from eleven to one o'clock on a cloudless day. The heat of the soil and of the sun will quiet them in one minute. This can only be done where the soil is free from weeds or grass, and where the currants themselves do not shade too much. The worms are very delicate and tender, and the heat of the soil and sun is intense—decidedly more than they can bear. With heat, Paris Green and Hellebore, and with early and earnest attention—this last most important of all—we have little to fear from currant worms.

When we recall our currants from the fence corners and neglected places, and plant them as they should be, in a block by themselves, we may easily confine fowls among them before the fruit matures and after it is gathered. These will effectually destroy all injurious insects.

The Green Prolific Strawberry.

The credit for this should have been given to Seth Boyden, of Newark, N. J. Our October article had one too many varieties in its list. The Green Prolific Strawberry is one of our favorite varieties, grows finely on sandy soil, and we have never heard of an instance where it failed to yield a crop. Sometimes its flavor is quite sour, but when well ripened, it has sub-acidity very agreeable. It is one of the most creditable of the Boyden seedling, and, with the *AGRICULTURIST*, and No. 30, he might well feel proud of having introduced some new and worthy fruits in the horticultural world.

Todd's Apple Culturist.

With the exception of a few instances of unnecessary prolixity of description, and the habit of giving free notices, or advertisements of sundry agricultural implements and warehouses, which no author ought to introduce into his works, this volume—*The Apple Culturist*—is not only the best of Mr. Todd's works, but is the most practical work on Apple culture yet published in this country, and well adapted to the use of every farmer. The publishers (Harper & Bros.) have done their work handsomely, filling it with a profusion of engravings of great interest, and a material help to the body of reading matter. If the faults we have named could be corrected, we see no reason why it should not be acknowledged of a meritorious rank with any of the standard agricultural publications of the day.

Editorial Notices.

Every Woman Her Own Flower Gardener.

A charming little book on Flowers and Out-door Work for Ladies, has been written by "Daisy Eyebright," and the manuscript placed in our hands for publication. The author, within a space of fifteen to twenty chapters, talks pleasantly of Geraniums, Fuchsias, Ribbon Beds, Bulbs, Ornamental Grasses, Roses, Flowering Shrubs, Climbing Vines, Ornamental Plants, Garden Vegetables, and a variety of other subjects. It is intended especially as a help to ladies in out-door gardening, and can hardly fail to be universally liked. Printed in excellent taste, and will be issued from office of *THE HORTICULTUREST*, June 15th. Price, 50 cents.

Vick's Floral Plate.

We have been favored with an elegant Colored Floral Plate, handsomely framed in black walnut, from the cordial hand of James Vick, Esq., Rochester, New York. It is the finest of all his achievements in this direction to the present time, and most admirable in conception and execution. The flowers are brought out into startling distinctness, and grouped in the most tasteful positions. It hangs in our office in a prominent place, and attracts the special attention of every visitor. It is no wonder that the public are so liberal patrons of so liberal a man. His issue of Catalogues for the Spring campaign was 185,000, and 125 hands were employed in filling orders for seeds. Next year he expects to issue 250,000 catalogues.

THE Horticulturist

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HENRY T. WILLIAMS.

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JUNE, 1871.

NO. 300.

Among the Flowers; or, Gardening for Ladies.

BY ANNE G. HALE.

VI.

(CONCLUDED.)

Everlasting Flowers and Their Management.

Helichrysum (called by some *Graphalum apiculatum*) is the golden eternal flower, which, with the globe amaranth and white satiny seed-pods of the honesty—*Lunaria biennis*—formed the whole list of flowers for winter decorations when our grandmothers were girls. Now, besides the old *Helichrysum bracteatum*, whose sunny face is as radiant as ever, we have over a dozen varieties, in all shades of yellow, and in yellow and brown, yellow tipped with crimson, crimson, rose, white, white tipped with rose, and white with yellow centre; single, semi-double and double—some very large and full—like great balls of gold. Of these, *H. compositum monstrosum* is the most elegant variety, with its large and full blossoms, some plants bearing pure white, others rose, and, others still, red or yellow. These make a fine show in the garden. They need a rich soil, and, like the gomphrenas do best started in the house or in a hot-bed. Seeds produced by the florets of the ray (the outer row of petals), as in all composite flowers, are more likely to yield double flowers. This variety grows to the height of two feet.

The dwarf helichrysums, from half a foot to eighteen inches high, are, in general, less hardy and of delicate colors. *H. nanum atrosanguineum* is, however, an exception, with its brilliant crimson flowers. *H. minimum* and *H. brachyrhincum* are exceedingly bright, but of tender habits. *H. chrysocephalum strictum* is a splendid plant, with an abundance of gorgeous orange-yellow flowers, rather small, but very desirable. This variety stands three feet high at maturity. The Helichrysums need the same treating as gomphrenas. Their buds are particularly beautiful if dried in several stages of growth. Both these and gomphrena buds are very effective, in con-

nexion with their blossoms, for wreaths or for baskets, as may be seen in these little



Swiss flower baskets, where several species of dried everlastings are prettily grouped with green moss.

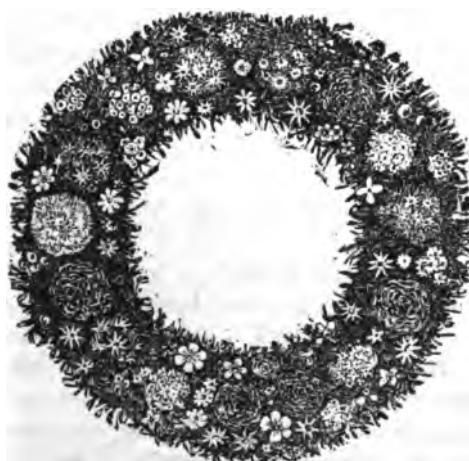


This is the wood-moss, that grows on the bark of old trees, near their roots,

and on rocks in moist situations, mostly in the shade of trees. Get this in May or June, wash it from all impurities, and spread it to dry in the dark; then keep it from light and air till used; but, even with the greatest care, it will fade in the course of a few months.

Its color can frequently be restored when faded, and also that of the faded moss that is found in autumn or early spring, by subjecting it to a hot bath of weak "crystal blue," such as is used for laundry purposes. But to brighten any amount of moss, it should be thoroughly cleansed from dust, etc., then partially bleached, by lying an hour in a solution of chloride of lime (an ounce to a pailful of water), hot, rinsed immediately in clean, cold water, and passed through a hot bath of crystal blue, to which sufficient (a few drops) muriate of iron has been added to make it a good green. French moss already dyed can be obtained of the florists, but our own, thus treated, is excellent.

Pretty pictures—bas-reliefs—are made by cutting these small baskets in halves, and gumming each half to card-board, then filling them with moss and everlasting flowers, and gumming those also to the card-board. Thus two baskets are represented as if resting against a white back-ground. The body of such baskets may be filled with soft paper or cotton, the moss and everlastings resting upon and glued or gummed to the rim, and also at the back to the card-board. Glassed and framed, these pictures are cheerful ornaments for the mantel or the walls of any room.



Helipterum, the "sun's wing" of our flower-border, is a favorite with many, because it grows with as little care as a daisy. Low in growth—less than a foot—but thickly studded with bright yellow or white blossoms, that hold their color well. *H. Sanfordii* has clusters of golden yellow; *H. anthemoides* has white, and a recent variety, *H. corymbiflorum*, is said to produce particularly fine white star-like flowers.

The helipterums are used in company with gomphrenas, helichrysums and other eternals in the annexed illustration. The combination of so

many species, when their various colors are properly contrasted, makes a very

handsome display. A wreath of this sort, made like that on the previous page, is suitable for a grave, or for a parlor window at Christmas.

If small and delicate sprigs of lycopodium be used for verdure, or if moss be substituted for it, and the wreath be made in the manner directed for covering the anchor, it serves admirably as a frame for a picture—a photograph likeness, for instance.

Rhodanthe, though rather a tender plant, is considered by most cultivators the handsomest of all everlasting flowers. Its half-blown buds are bell-shaped, and its colors, varying from purple and violet to white, sometimes with deep purple centres, at others with a golden disk, give it a charming appearance. The seed should be started within doors, and the young plants set in rich, mellow soil. *Rhodanthe Mangelsii*, an Australian variety, has many admirers; is often kept as a parlor plant through the winter, growing well with the gomphrenas. *R. atrosanguinea* has handsome foliage, and blossoms with claret centres; in some flowers dark violet and maroon, the rays—the outer scales—being of a brilliant crimson. *R. maculata* is a hardy variety, with light purple, and *R. maculata alba* has elegant silvery white ray-scales, with yellow disk—very desirable flowers to be used in the making up of winter flower-baskets, the beautiful colors and graceful forms of their buds, and half open flowers being a charming addition to any collection, as we see in this handsome

Christmas basket—a very appropriate gift for an invalid's table, or a fine ornament for a corner stand in the parlor. These baskets, lined with silver paper or tin-foil, and then filled with sawdust or dry sand, hold the stems of eternal flowers, mosses and dried grass-flowers in a steady position, just as they are arranged



ed, for any length of time. If in a situation exposed to dust or wind, they should be kept under glass.

Polycolymna Stuartii is a trailing everlasting, quite hardy for garden growth; is used with others of the same class on account of its showy white flowers, in these winter baskets.

Some baskets are mounted on stands. Our illustration shows the polycolymna, its trailing branches drooping from the brim. Any neat basket, such as ladies use for sewing materials, looks pretty, and is a very convenient receptacle for winter flowers and grasses, with lycopodium or moss to bring the various forms and hues into good position; the color of brown baskets displays the white and yellow tinted blossoms to better advantage than the ordinary neutral tint of wicker-work.



Waitzia aurea and *Waitzia grandiflora*—new varieties of this class of flowers—though tender, requiring a start in the hot-bed or in a window box, are elegant plants for the garden; and, if the blossoms are cut from the parent stock early, are of a clear, golden yellow. *W. grandiflora* produces an abundance of very handsome clusters of flowers, that must be gathered before they are fully expanded, and dried as directed for graphaliums.

Xeranthemum annum, the purple everlasting, is always wanted for winter wreaths or bouquets, and seems never out of place in a funeral garland, for its exquisite purple tints harmonize well either with white or gold color. All the varieties are easily reared every summer, from seed that germinates quickly in a warm, light soil. Though growing only to the height of ten or twelve inches, they yield a profusion of flowers, large and double. *X. alba*, the double white variety, is very handsome; also *X. caeruleum*, with pale blue blossoms.

From these different species of everlastings and their several varieties, when nicely dried, a most elegant bouquet can be made. Examine carefully this representation,

and note what variety of form and figure from bud and blossom, clustered or singly, the comparatively small range of everlasting or eternal flowers supplies. With the simple greenery of lycopodium and wood moss adding their peculiar charms, a more tasteful ornament for the mantel or a corner bracket cannot be devised. To arrange a bouquet like this, presenting only a front view—a flat bouquet, as it is styled—a number of wires or bare twigs, of various lengths, must be provided, to each of which the evergreen and the flowers are bound, as the fancy directs, in small portions of each, beginning at the top with the most slender moss and finest lycopodium. Cover the twigs (if forked and branching, so much the better), for an inch or two with the green; then fasten them together securely at the base, spreading them, to make the group somewhat fan-shape; then proceed with the smaller buds and blossoms for the outer



flowers of the bouquet, and the larger and more showy for the centre; tie each securely; and, filling all vacancies with moss, its delicate fronds also edging the outlines of the group, as you weave in and tie the stems, you will at last have the result here portrayed. Fill a vase with sand, and insert the bare ends of the twigs—two inches should be left uncovered—and your bouquet has a firm support. Ornamental grasses are frequently introduced into bouquets of eternal flowers, and the airy grace of their delicate blossoms has a most charming effect; but we must reserve their consideration for another paper.

It has been shown that all these articles of decoration can be made at home, and that all the materials used in their construction can be easily procured, while the flowers, after beautifying the family garden, can be preserved a long time in these

tasteful designs. But there is no danger of this being done to the extent of interfering with the trade; were greater interest awakened in this, as in other horticultural matters, our florists would have occasion to renew yet oftener their orders to England and France for floral desigus, as well as for seeds and plants.

Floral Notes.

Stimulant for Flowers.

ONCE a week it is well to use a little stimulant. Rain water, so refreshing to summer flowers, contains considerable ammonia, and can be used freely. A small, two or three ounce bottle of spirits of ammonia may be dissolved in a large pailful of water and this applied to the plants. Another plan is to dissolve an ounce of pulverized carbonate of ammonia in one gallon of water; this is very stimulating. Once in two weeks, guano water may be used (one table spoonful to a pail of water), and the plants will grow more thrifitily. Chicken manure dissolved in water is excellent. It is well to keep the soil in the flower pots loose and open. A common hair pin, used daily, will stir the earth sufficiently.

To Restore Frosted House Plants.

An exchange says: "Don't hurry them into a warm room, as you would a frost-bitten chicken. Let them remain where they were frozen, close the window shutters or drop the curtains, so as to make the room quite dark; then sprinkle the plants with cold water, direct from the cistern, and wait the result.

"Do not allow the room to become warmer than forty-seven degrees for twenty-four hours. If a few drops of the spirits of camphor are thrown into the dish before sprinkling, it will be all the better. Plants treated in this way, though frozen so badly that water will freeze in drops on the leaves when sprinkled, yet by keeping the room dark and cold for an entire day, they will come out unharmed."

Roses in South Carolina.

P. Barry, writing to the *Rural New Yorker*, from Aiken, S. C., says: "I thought that St. Augustine bore the palm for roses, but Aiken is not behind. Although the soil is very light, sandy and apparently poor, roses of all kind seem to thrive and bloom remarkably well. 'Fortune's Yellow,' which we rarely see, is superb here in several gardens."

Lists of Flower Seeds.

The following lists were made out this spring by Henderson and Fleming, for the information of members of the Farmers' Club:

First: List of annuals suited to rather poor ground and earth thrown up from cellars:

Adonis autumnalis,
Bartonia aurea,
Candytuft,
Clarkia,
Collinsia,
Gilia tricolor,

Nasturtiums,
Nigella (Love in a Mist),
Lupins,
Prince's Feather,
Morning Glory,
Antirrhinum, or Snapdragon,

Mignonette,
Nemophila,
Nolana lanceolata,

Amaranthus tricolor (Joseph's Coat),
Sweet Alyssum.

Second: Flowers that will grow well on prairie when first opened:

Asters,
Calliopsis,
Callirhoe,
Cape Marigold,
Campanulas,
Cypress Vine,
Delphinium,
Eschscholtzia Californica (California Poppy),

Evening Primrose,
Leptoriphon,
Limnanthes Douglasii,
Linum Grandiflorum,
Musk Plant,
Palafoxia,
Sanvitalia,
Sweet Sultan,
Sweet William.

Third: List for the average village door-yard in the latitude of New York:

Amaranthus,
Cacalia, or Tassel Flower,
Clarkia,
Catchfly,
Chrysanthemum—annual,
Dianthus of sorts,
Ipomeas,
Marvel of Peru,
Panay,
Petunia,

Phlox Drummondii,
Portulaca,
Saponaria,
Scabiosa, or Morning Bride,
Sweet Peas,
Venus's Looking-Glass,
Virginian Stock,
Viscaria,
Whitlaria,
Zinnia Elegans.

Best New Fuchsias.

"So many new ones are good, it is hard to choose the best. But Madame Deproot is good; it has a bi-colored corolla. Starlight and Marksman are also two very good varieties."—*Gardener's Monthly*.

House Plants.

There are some plants that appear specially adapted to window-culture. Among the finest of these is the geranium. It sports almost innumerable varieties, in colors ranging from pure white through pink, cerese, cherry, and crimson, to the most fiery, intense scarlet. There are spotted ones, striped ones; varieties with white eyes, and double kinds. These double kinds are a late acquisition, but remarkably fine. Of several varieties of the double geranium, I have found the Gloire de Nancy (bright soft scarlet) and the Madame Lemoine (beautiful rose-color) to be the best. They stay in bloom a long time, have large and handsome trusses of flowers, and blossom profusely. The Tom Thumb double is worthless. In color and profusion it is fine, but the central blooms fade and wither long before the outer ones open, and give the whole truss an appearance of a ball of scarlet and black rags tied together. Its habit of growth is good, but not so its blossoming. For single varieties, the Herald of Spring is the most perfect flower I have ever had. It is bright crimson with white eyes; has large flowers opening uniformly on the truss, and these flowers are circular in shape—much like a pansy. The Virgo Maria is pure white, and has immense clusters of blossoms. Rose Rendatler is bright pink, spotted with white. For variegated geraniums, the Mrs. Pollock is unsurpassed. It has bright green leaves, banded with golden-yellow and belted with brown. Where the belt streaks up into

the band, it is bright crimson. The Lady Plymouth is the old rose geranium with a white variegation.

Heliotropes are beautiful in growth; in flower, very fragrant, and a profuse bloomer. Almost any kind is good. One cluster of these flowers will scent a whole room in winter, with its spicy, summer-like fragrance.

Carnations are valuable for house flowering. They blossom profusely, and are splendid flowers. Added to their beauty, is their fragrance. La Purite (bright rose), Defiance (scarlet), and Flatbush (white), are three good varieties.

Monthly roses are too well known to need any extolling. Hermosa (pink) and Louis Phillippe (dark crimson) are free bloomers and good growers.

Fuchsias are fine for summer-flowering, but seldom blossom in winter.

Begonias do well in the house, and are valuable for their unique foliage, if they never blossomed.

Bouvardias, especially Hogarth, are nice plants for the window. Their scarlet and pink clusters are produced in great profusion, and are extremely showy.

The Calla, or Egyptian lily, does well in some rooms. Its large leaves give one a great deal of pleasure from their luxuriant, tropical appearance, and when its creamy, white blossoms appear, it is always admired.

Hanging plants ought never to be omitted from any collection. They have a grace peculiarly their own. Any old basket will do, but a sort of ox-muzzle, made of wire and lined with moss, is better than the usual make-shifts seen suspended in windows.

The terra-cotta baskets or pots, sold for hanging plants, are pretty, but not as good as the moss baskets are. Moneywort, Trandescantia, Glechoma, or Wandering Jew, called in some places "Jill-over-the-Ground," "Oats-foot," or, more properly, ground ivy, English ivy, Maderia vine, petunia, and ice-plant, are good plants for hanging baskets. In watering plants in moss baskets, immerse them, plants, basket, and all, in a pail of water.

Cannas, coleuses, and other plants used for lawn purposes in the new sub-tropical style of gardening, will do quite well in the house. For spring flowering, I always have a lot of hyacinths and tulips. Nothing goes beyond them in showiness, and they are easily grown.—*Western Rural.*

Hints for the Flower Garden.

The Soil.—Flowers need something more than dirt. A dry warm loam, rich, fine, with a large admixture of sand, is the soil for flowers. Thousands of dollars' worth of fine flower seeds are lost every year by being planted in cold, hard, wet or half pulverized soil. The utmost care should be taken in this matter. It is but a small space that you grow the flowers in and that should be the best and the most thoroughly prepared.

Arrangement.—Many persons who have large quantities of flowers fail in arranging them in the flower-bed so as to produce the best effects. In selecting flowers consider for what purpose you wish them. If you want showy masses of flowers select Verbenas, Phlox, Candytuft, Petunias, etc. If a tall, showy group is desired, Zinnias, Balsams, Poppy, Marygolds, Calliopsis, etc., will produce the desired effect. Pansies and Verbenas make beautiful beds without other flowers. —*N. E. Homestead.*

An English paper describes a case of a yellow primrose which, when planted in a rich soil, had the flowers changed to a brilliant purple. It also says that charcoal adds great brilliancy to the colors of dahlias, roses, and petunias; carbonate of soda reddens pink hyacinths, and phosphate of soda changes the colors of many plants.

Tulips do Not Need Manure.

The California Horticulturist quotes the following experience in illustration of the above statement: "Two years since a gentleman residing in this city, imported a parcel of Holland Bulbs, consisting chiefly of Hyacinth, Tulips, and Anemones. He prepared a bed for them in a sunny exposure, and added sufficient of old cow manure, to make it half manure and half soil. In this bed he planted his Hyacinth and Tulips; we called his attention to the fact that Tulips do not require so much manure, and we expressed fear for his ultimate success. We have never seen a finer lot of Hyacinths in bloom in California than his, but the Tulips were a complete failure. This example vindicates an old-established rule, that 'the Tulip will not thrive well in heavily manured soil, and even if it does the flowers will exhibit much inferiority in the various shades of color.' 'The best way to manage Tulips is to procure healthy bulbs, plant them without delay in deep loose soil, neither too sandy nor too clayey, selecting a sunny exposure, more so if possible than for the Hyacinth. They can grow with less moisture, too much of which promotes decay.'"

Fuchsias.

S. O. J., in her admirable articles on gardening for ladies, gives directions for the management of the Fuchsias.

"Fuchsias are among the most beautiful of our 'bedding-out' plants—but they require careful treatment to grow and bloom in perfection. They love a cool, shady, moist situation, and the noonday sun will wither their lovely bells. It is well to take them from the pots and plant in the most sheltered nook of the garden; the morning sun is favorable to them, and its last rays are not injurious. The Fuchsia is a gross feeder, and demands a vast amount of plant tonic—thus treated, their roots will strike deeply into the soil. Watering twice a week with liquid manure water, either of guano or stable manure, will increase their beauty and bloom. Cuttings should be struck at this season for spring blooming—and the large plants can be wintered either in dry sand or in boxes of earth. At the far south they will require no covering—can be allowed to remain in the open border all the year round. At their first introduction into England they were treated as 'stove' plants, but now they wander at their own sweet will over trellis or porch, and are as luxuriant as our trumpet or monthly honeysuckles; the birds build their nests in their boughs, and rustic seats are made from their stout stems! They love moisture, should be watered twice a day in a hot, dry season, at morning and night, *never at noonday*. If planted under trees, the boughs should not be lower than ten feet, as it would impede the free circulation of the air. To make them grow bushy the tapering stems should be pinched off, and two branches will start forth. The different species possess different habits. One that naturally grows in a bushy form, cannot be forced into the shape of an umbrella, while the Speciosa and the Souvenir de Cheswick, etc., cannot be made to grow bushy. Plants will follow their characteristics unless very rigidly pruned and

trained. With those of a bushy form, care must be taken to pinch off the innumerable side shoots which spring from nearly every leaf; these retard the blooming of the plant and weaken its growth. We have a Speciosa, six feet in height, which has bloomed constantly since February, and still puts forth new shoots and blossoms. Among the new varieties of the season are Marksman, a double variety of great beauty, Vainque de Puebla, a double white corolla veined with scarlet, which is rarely beautiful, and Carl Halt, whose crimson corolla is striped like a carnation. Thanks to our unknown friend, we have fine specimens of the three in full bloom. Heliotropes require all the sun and air they can receive. They are natives of the Himalaya Mountains, and grow like rank weeds in a rich, sandy soil. They demand a generous culture, and frequent watering with liquid manure. The richer the soil, the more luxuriant the plant. They can be made to grow ten to twelve feet high."

Cherries, Marketing, Etc.

CHERRIES are one of the most perishable fruits that grow in our country, so much so, that many persons have relinquished the growing of them for marketing purposes. While others, thinking they can succeed with new varieties, have undertaken the growing of them for the purpose of making money by so doing.

One of the greatest difficulties in the way of these persons, is how, or in what way, or what package can they make use of in order to get the fruit to market in good order.

Before speaking on this point, permit me to draw their attention to one very essential point, and that is, to handle it with the greatest of care before placing it in the package for shipping. They should always be picked with the stems on, and in clusters, if the fruit will permit, and never be packed in a damp condition.

If they are much spotted, showing a disposition to rot, sort them carefully, and not ship any of the damaged ones, as they will affect the others.

When they are picked off the stems, the juice runs from the fruit, and dampens it, which also causes it to spoil on the route, particularly if the weather is extremely hot.

In regard to the package to be made use of in shipping. I am not prepared to say which is the *best*; for the *distance* the fruit is to be sent, and the mode of transportation, must be taken in consideration. Where the distance to market is short, and the expense of returning the package is not heavy, they might make use of small oblong baskets, containing from 10 to 15 pounds. By having these baskets twice the length of the width, they can be packed in square skeleton cases, two in a layer, reversing the top ones, so the bottom of these may rest on the top of the lower ones.

Handles steady them, so they will not move; but to economize space, the handles of the top layer might be removed, to permit the lid of the case to close down on the baskets.

Where the grower has large-sized berry crates, they might procure baskets to fit them, even if they did contain a trifle more or less in bulk. When baskets cannot be procured, the better way is to have boxes made to fit these cases, containing

about the same quantity; but, in order to ventilate the fruit, have the ends or sides of the boxes made a trifle higher than the other, to suit the package they may be placed in.

The above style of packages are also convenient for Currants, and even Grapes, when the owner has only a small quantity to market. Some growers of the very finest and choicest of fruit, make use of a case containing a chest of drawers; but, these are very expensive to purchase, and also to return empty.

For growers living at a distance too great to make use of these packages, on account of the expense of returning them, they will find that a small crate, containing from 15 to 25 pounds, will be as convenient as anything they can procure. Let them be made very light, and slightly ventilated. This style of package is generally used by the cherry growers living in the central part of the State, who send to this city.

Always weigh the packages, and mark their weight on them. With a stencil plate, have your initial letters, and the address of the consignee, placed on each, and if the package is to be returned, the name of the depot to which it is to be returned.

C. W. IDELL.

Rustic Supports for Climbing Plants in the Garden.

THE designs on the opposite page are from the pen of L. D. Snook, who has prepared them specially for the help of ladies in training their roses and climbing plants. He states in his remarks in the *Country Gentleman*, where the designs appeared some months since, that "the proper height is from four and a half to five and a half feet. The centre piece of each support should be at least three-quarters of an inch thick, and from an inch and a quarter to an inch and a half wide. Attach the lower end to a sharpened strip of cedar or chestnut, which can be driven in the ground, and when decayed replaced by a similar piece without injury to the support proper. Supports for climbers of the character here shown are universally painted white. To relieve the monotony and sameness, a pleasing and permanent effect may be produced by painting certain portions of them green on the side only, leaving the other parts white. Any farmer handy with tools, or any carpenter, can make them easily."

Timber Culture for Profit.

OUR farmers both East and West must soon awake to a realizing sense of an impending necessity. From 1860 to 1870, over 10,000,000 acres of wood land were cut down, and not one acre is found to replace them with bearing wood. Our best timber fields are fast disappearing, and those that remain far away in the remotest recesses of the Rocky Mountains, or in Oregon, will be too far off for economical and profitable transportation. Where shall we obtain our supplies? How much will we have to answer for, when with a stripped country, the cold winds sweep down from the North, with unrestrained and boisterous fury, and destroy with

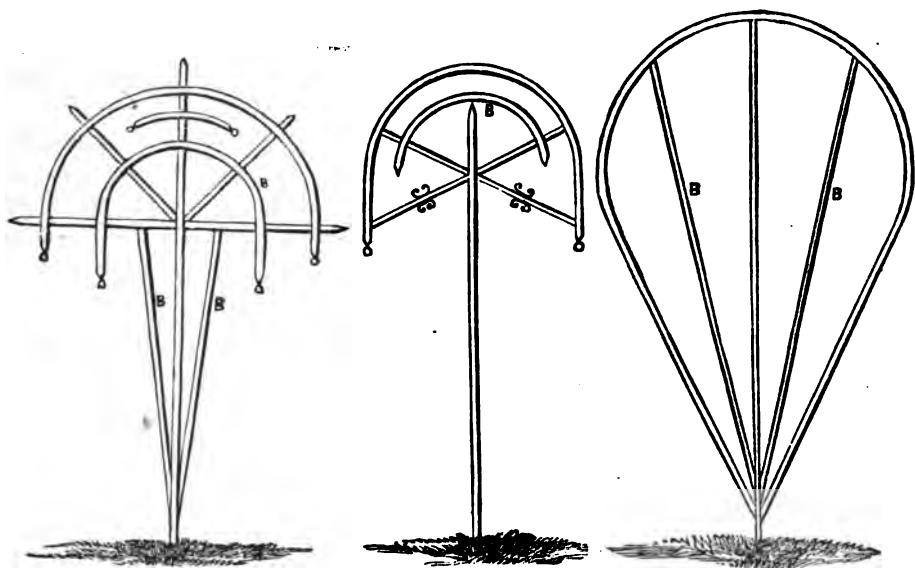


Fig. 1.

Fig. 2.

Fig. 3.

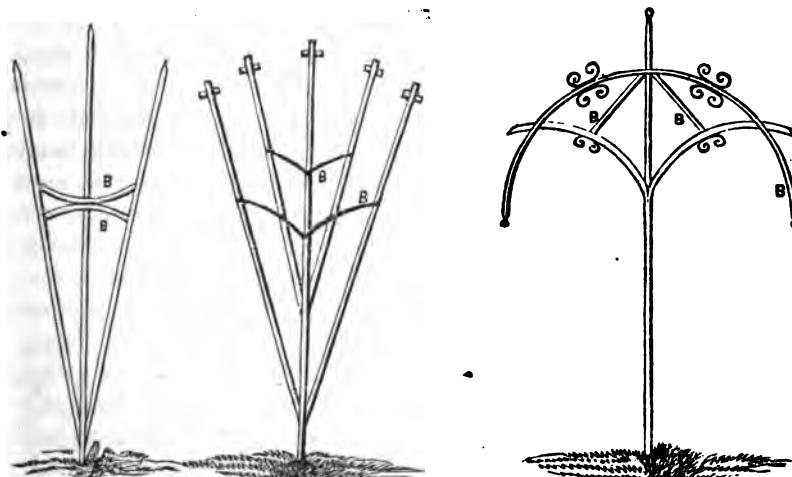


Fig. 4.

Fig. 5.

Fig. 6.

their sudden changes our fruit and ornamental trees, and imperil our crops, while one extreme will soon follow another, and unparalleled drouth cut off all encouragement for agricultural effort?

We must plant timber lands, both for shelter and for climatic preservation, as well as for future need and profit. *Begin now.* Every season lost is but increasing the danger of delay. We believe that if one-fifth of all land in cultivable farms throughout the United States, were to-day to be planted in timber, the remaining portions of each farm would be so much better tilled as to yield fully as good crops as the whole farms did previously, while in the ameliorations of climate, a vast good would be accomplished. We cannot too strongly urge this subject upon all cultivators both East and West, and hence throw in the influence of our Journal to help forward so noble a movement.

Growing Evergreens from Seed.

At the last meeting of the Kansas Horticultural Society, Mr. Robert Douglas related his experience in growing evergreens from seed, his mode of culture, transplanting and pruning. He saw no reason why evergreens cannot be successfully grown here. Other trees grow here that are quite as difficult to transplant. He was of opinion that the principal cause of failure is in planting too late. The idea has got abroad that the best time to move an evergreen is just as it is starting into growth. Such is not his experience; thinks the notion originated in the fact that nurserymen who have a large amount of work to do in the Spring, must put off something, and evergreens will bear delay better than deciduous trees; the latter are pretty surely killed by transplanting late, while the evergreen is only stunned. Since he came in, a gentleman had called his attention to a fact of great importance: The growth of an evergreen just transplanted, is no evidence of its vigor or of the formation of new roots and a good hold of the ground. The growth which it makes is entirely dependent on the buds formed the previous year. In these buds are stored up all the elements of the shoots made this year. Now, a tree planted out early will finish its growth early, and afterward go on making roots, and perfect fine, plump buds for a good growth next year; while a tree set late, although it makes the same growth this year, and appears vigorous, will next year only make a feeble, stunted growth, because its terminal buds were weak and imperfect.

Another important point is, to pack the ground thoroughly about the roots. A vast number of failures occur from this cause. Many think they have tramped the earth thoroughly, but if they will observe they will discover that the first heavy rain settles it still more. It is difficult to get the earth back into the same space with the closest packing; hence, it must be done with exceeding care. Loose earth should be thrown on the top to prevent baking. Last Summer was a very trying season for transplanting trees, and he took a trip through the country, among his customers, expressly to observe the effects of different modes of planting, and in the large majority of cases where evergreens had failed, he found the earth not firmly packed about the roots. Sometimes it will be made firm at the top, but a cavity left underneath. This is the most dangerous fault of all; a tree so planted is almost certain to die. When one has but few to set and plenty of time, it is better to raise

earth in the centre of the hole, in the form of a low cone or pyramid, and spread the roots carefully over it; but by all means avoid a bowl-shaped hole, lowest in the centre. The earth will settle most in the centre, and leave a cavity just under the stem, which is fatal. Never wait for a rain to plant evergreens; would not advise to plant in the mud, though he himself was often obliged to do it. Did not himself shade small evergreens when transplanted, but it is better, especially in this hotter climate. A good way is, after the growth is finished and the weather grows hot, go over the rows and shake a little prairie hay loosely upon the trees, not enough to cover them, but to break the force of the sun's rays. He imports nearly all his seed, simply because he can get it cheaper; sows broadcast in the Spring, in his shaded bed, and rakes in; sows thick enough, so that the little trees will soon cover and shade the ground. At one year old he sells off a part, thinning out the beds; runs a thin, sharp spade a few inches under the plants, and then they are easily pulled out. Those left in the bed, having the tap roots cut, will make fibrous roots, and are the same as transplanted trees.

The number of seeds in a pound varies from 15,000 to 320,000, so that no fixed value can be given as to the weight to be sown per rod.

Very small trees are most conveniently transplanted with a dibble, larger ones by digging a trench, laying the trees in, and lightly covering. Tramp them firmly with the foot, then throw on more fine earth. Evergreens may be trimmed just as safely as other trees, to thicken up or to change their form.

Progress of Tree Culture in Iowa.

There is said to have been planted last year in Iowa, not less than 15,000,000 trees. And a still larger number will be planted this year. Two farmers in one township have set out 25,000 trees. Progress like this is encouraging. Here we have an average of five trees to each inhabitant in the State planted out *every year*. A hundred to each inhabitant would still be only a moderate beginning. There ought to be an *acre* on the average to every resident of the State.

Rapid Growth of Trees.

The Larch tree is unanimously acknowledged the most rapid in its growth, and most speedily profitable. The European excels the native American variety both in height and breadth. Mr. Douglas, of Waukegan, Ill., has upon his grounds two trees fifteen years planted, each of which now measure forty-five inches in circumference at the collar. One tree nine years from seed, transplanted at one year old, measures twenty-seven inches; and one in its fifth year from seed accidentally left in the seed bed, measures nine inches in circumference at the collar.

Trees upon the grounds of E. Y. Teys, Richmond, Ind., and John C. Teas, Raysville, Ind., ten years planted, are upwards of thirty feet in height, and ten to twelve inches in diameter. D. C. Scofield, of Elgin, Ill., and Samuel Edwards, of La Moille, Ill., have trees of the same size.

Mr. S. T. Kelsey, of Ottawa, Kansas, has been planting very extensively the most rapid growing trees. He set out at first but twenty acres, fifteen of which was with black walnut, and the remaining five with several other sorts. They were planted in rows twelve feet apart, and about eighteen inches in the row, with a view, we sup-

pose, of thinning the rows as they become older. The ground is kept as well cultivated as a nursery, and the young trees are growing with great vigor. Among the trees under experiment are American Arbor Vite, European Larch, and Red Cedar, the latter under good care and on rich soil, we are informed, with a growth that would be surprising to any one that had only seen the native scrubby appearance. Mr. Kelsey has lately purchased in connection with J. H. Whetstone, 12,000 acres, which they have inclosed with a wire fence, at a cost of seventy-five cents a rod, and with No. 8 wire. Osage hedges will supersede much of the wire barrier, and the ground is ready for 100 miles of hedge to be set next spring. The tract is to be divided into forty-acre lots by hedges. Several miles of forest trees are to be planted in the spring.

The trees on the twenty acres already mentioned, were planted in 1867, and the present measurements are given as follows: Black Walnut, five to eight feet high, one to two inches in diameter; Soft Maple, eight to twelve feet high; Cottonwood, twelve to sixteen feet high, one and a half to three and a half inches in diameter.

Northern vs. Southern Nursery Trees.

THE *Southern Planter and Farmer*, of Richmond, Va., in its last February No., contains a critique on extracts from THE HORTICULTURIST, on this subject, which we propose to notice, although the Editor is perhaps able to row his own boat. First, THE HORTICULTURIST states the "reason why Northern pear trees are preferred, is because a larger percentage of all the trees grown in the nursery are good and reliable, well formed and vigorous, while in the South not over fifty per cent can be depended on as first class." This the Editor reports as coming from a reliable nurseryman, and says the remark is a very just one so far as personal observation has enabled him to judge of Southern nurseries. But on the other hand, the Northern Editor concedes the fact that we, of the South, "can raise better pears—larger ones—than at the North."

The Editor of the *Planter* says the above-mentioned nurseryman knows more than anybody down South, and adduces as a reason for the deficient supply, the events of the war, and claiming that better trees, at least larger for their age, can be grown South than North, because of a *longer* growing season. After some remarks as regards climatology affecting trees, he closes his critique with the remark "that it is time this matter was perfectly understood, and is tired of hearing any such superiority claimed."

Having planted about one thousand pear trees (and more of other fruit trees), many of which were obtained from Virginia, North Carolina and Maryland, the majority from Rochester, N. Y., and having had abundant opportunities of personal observation of all the larger pear orchards of our State, containing at present many thousands of trees, perhaps the writer might not be regarded as an incompetent witness to testify in a court of inquiry on the question mooted. First, there have been no pear trees grown of any consequence on Virginia soil, either before or since the war; and many sent from Virginia nurseries were purchased North. A few really

good, first-class pear trees have been grown at Staunton, Fredericksburg and Richmond, but not one-tenth enough to supply the demand which originated soon after the war, from Mrs. W.'s success, near Norfolk, with her 5,000 dwarf trees, now thirteen years old, grown by Ellwanger & Barry, at Rochester. The facts in regard to the matter of transplanting trees from a Northern climate to Virginia, appear to be as follows, in regard to certain kinds of trees: Apple trees remaining in Northern soil and climate beyond two years, and having a fixed Northern habit, are almost worthless transferred to our soil; on the contrary, one and two year old of any of our esteemed Southern varieties appear to bear earlier and fruit better.

This is the experience of the largest apple grower in tide-water, who sold from 200 Yellow June's (E. Harvest), Northern grown, nine years' planted, in 1867, \$2,000 net worth of fruit.

Yearling peaches, grown in New Jersey, do well, fruiting some weeks earlier than the same variety North. With pears there is a marked difference in the subsequent health and thrift of the trees as to their birth-place, growing and training, and management of the stocks. The *soil* appears to impress a vigor of constitution or a feebleness; the one a stocky growth of well-ripened wood, the other, of the same age and variety, a slender, whippy, succulent wood growth, that falls an easy prey to the enemy, blight. I have seen a majority of the latter grown South, and of the former grown North, and many of the latter from both sections, of both dwarfs and standards.

In regard to the longer season which the writer claims as a decided advantage, it might be of utility, provided the same character and fertility of soil, with stocks, heavy strong English or French, transplanted, were used in both sections, but unfortunately when all goes pleasantly in mid-summer, with frequent evening showers at Rochester, Richmond and Fredericksburg, we have to contend with a hot, dry July and August, prematurely arresting the *first* and most *important wood growth* which the young trees make in the season, which more than compensates for any length of growing season claimed. If there are any two year old Virginia grown apple or pear trees as large as the three year old Northern trees, as the Editor claims, your correspondent has not seen them.

The village of Staunton, 120 miles above Richmond, beyond the Blue Ridge, heavy clay soils and colder climate, shorter season than at Richmond, exhibited at the last fair, *larger* two year old apple and pear, and yearling peach, than any grown at Richmond or Fredericksburg. Fertility of the soil and strength of stocks, with cultivation, have more to do with the size or growth attained in a single season, than a slight difference in length of growing season. Virginia has a great diversity of soil and climate, and while I verily believe there is as good soil for growing pear trees and other nursery stock, here as North, our nurserymen either have not found it, or they have failed in obtaining the best stocks.

We find the Pippin family of apples, and many of the esteemed Northern winter varieties, succeeding well in the valley and Piedmont country, all along the Blue Ridge. We grow the trees well in tide-water, but the fruit all prematurely drops diseased, with copper-colored spots. Our best winter apples are natives to the manor born, and very little disseminated. Early fruits for the Northern market, ripening before the last of August, only, are profitable.

NANSEMOND.

Profit and Method of Forest Raising.

THE net profits of one acre of timber plantation, in fifty years, exceeds Fifteen Thousand Dollars.

This proposition I will demonstrate by facts and figures.

First.—In my estimate I will use the White Pine and European Larch, as I regard them the most valuable varieties for forest culture. It is a fact that a pine or larch plant, of six inches in length, set on rich or moderately rich soil in forest form, will attain a height in twelve years, of 30 to 35 feet, and a diameter at the collar of 8 to 12 inches. This is demonstrated on my ground in Elgin, in both pine and larch. Pine trees attain the height of 100 (one hundred) feet in fifty years, and a diameter of 3 (three) feet. We have abundant facts in proof in the Eastern and Middle States. The larch being a native of Europe, we have to go there for facts.

“Twenty years from planting of plants of 12 inches in length, trees were cut from which saw-logs of 18 to 20 inches in diameter were cut and drawn to the mill for lumber purposes.

G. MARSHALL.”

“Thirty years from planting, the forest was being manufactured into lumber by the steam-saw mills located in their midst, from trees of two feet and more in diameter and 80 to 100 feet in height.

W.M. HILL.”

“We find by the Duke of Athol’s measurement that trees planted by him in 1748, were nine feet and three inches in circumference when measured, four feet from the ground, in 1795, a growth of 52 years.

SIR T. D. LAUDER.”

Let me here remark, that the larch trees planted in 1743 here referred to, now stand 126 years from planting, 120 feet in height and five and one-half feet in diameter, as measured last summer (1868) by E. Y. Teys, of Richmond, Indiana. A pine or larch tree, therefore, of fifty years in forest plantation, is 100 feet in height and three feet in diameter, and will make 2,600 feet of lumber. This lumber, of either larch or pine, at the present price, would be worth not less than one hundred dollars.

I will therefore plant the larch or pine for my *Model Forest*.

Second. Method.—Prepare the ground the same as for corn, and a similar soil. Mark it with a plow for rows, three feet apart at right angles, and set a tree in each angle. To set one acre will require 4,820 trees. If you would have a pine forest there, set every fourth tree of that kind, and the balance with larch. This would require 302 pine and 4,418 larch. When the larch are all removed to give place for the pine forest, the trees will stand 12 feet apart, which is sufficient room for the full grown tree.

The cultivation should be sufficient to keep the ground clean from vegetation until the young forest will protect itself, which will be two or three years. When this has been planted six or seven years, every alternate row should be removed, leaving them three feet by six. These 2,410 larch, thus removed, are sufficiently large for grape stakes; their great strength and imperishable character rendering them of great value for that purpose. At the end of another seven years there should be cut every alternate row across, leaving the rows six (6) feet apart each way, which leaves 1,204 trees. These trees now removed are at least thirty feet in height, and

ten to twelve inches in diameter, and will make not less than 4,000 fence posts. At the end of another seven years, take away another alternate row of the larch through the plantation, or 600 trees, leaving the remainder 6 by 12 feet apart. These 600 trees, now 21 years in the plantation, are twenty inches in diameter and fifty feet in height, valuable for posts, railroad ties, spars of vessels, etc., and worth at least three dollars each. At thirty years from planting, remove another three hundred trees, leaving the "forest proper," the trees standing 12 feet apart, and 300 trees. If the entire plantation were made of larch, then a larch forest will remain, and if every 4th row were set with pine and the remaining trees were larch, then a pine forest is the result. One consideration worthy of notice, resulting from the larch plantation, is the enriching of the soil by the formation of at least a quarter to one-third of an inch of vegetable mold annually, from the falling foliage.

Thirdly. Profits.—Seventh year cut, 2,400 grape stakes, net value at 5 cents each, \$120; 14th year, 4,000 fence posts, at 25 cents each, net value, \$1,000; 21st year, 600 trees, at three dollars each, net value, \$1,800; 30th year, 300 trees at twenty dollars each, net value, \$6,000. Total, \$8,920.

In this estimate we have noted the net proceeds of the timber cut from the "forest proper." Three hundred trees now stand to grow on for future forest. Cut them away now and they are worth six thousand dollars. Let them remain ten years longer, and their net value is \$9,000. Let them grow on twenty years, and they are worth \$15,000. Making the total income from a single acre of timber plantation to be not less than Twenty-five Thousand Dollars in fifty years. A snug fortune to the young man who plants, and a rich inheritance to his children.

There is scarcely a man in the country who owns forty, or even twenty acres, but who can plant one acre. Nor one who owns 160 acres but could plant 10 (ten) acres.

These estimates are based on present values. Thirty years hence, they will doubtless be doubled.

D. C. SCOFIELD.

A Few Choice Fruits for Country Homes.

The Davison's Thornless Black-Cap Raspberry.

THREE years ago I was persuaded to try Davison's Thornless Black-Cap. My object is not to find fruits first for profit, but for enjoyment, and, possibly, profit afterward—fruits that will contribute to make a rural home delightful.

I have tested scores of all kinds of berries, and generally found it necessary to discard them, or else provide a doctor for each variety, whose whole business should be to study its whims and watch its ailments. But Davison's Thornless Raspberry I put down as about every way a good satisfactory home fruit.

In the first place it is hardy—as hardy as a Black-Cap that meets the sharp frost with sharper thorns. It is a superb bearer; if not equal to Doolittle, it is equal to any ordinary emergency, and after a good summer's crop, it inclines to be generous quite into autumn. For growth of canes, on my soil, it surpasses all other varieties. Before the crop of 1870 was completely gathered, the new canes had shot up clear over our heads; many of them twelve feet high. These were reduced to a proper height for stakes, and the side shoots reduced from time to time, and now the planta-

tion looks like a dwarf grove. The canes in size and strength were maximum. But what has all this to do with the fact that any one can crowd through, and under, and handle the bushes without one serious scratch. There are a few small thorns at the jointure of the leaflets, but they are only imitation. A lady's dress is safe, and the gatherer's hands are safe. Just contrast your experience with any of the thorny varieties—clothes torn, hands bleeding, and temper worse off than either clothes or hands. You are caught and twitched at every move. No sooner has one plague let go with a bit of your skin, than another takes you by the coat-tail; till you feel fairly whipped and afraid to enter. All well enough when urchins are hired to do the picking, and you never see a berry till they sit beside the cream bowl. But I want a berry that I can visit at its home, and eat out of hand, and not have to run for my life, as if I were a thief, for touching it.

I set the Davison about twice as closely as any thorny variety, and then mulch the whole surface of the soil with a thick covering of long manure and saw-dust. Raspberries naturally crowd together, and in their native condition shade their own roots. Of course thorny varieties must be set far enough apart to allow of free passage. The Thornless can be allowed to stand in hills far enough apart one way for the pickers, and far enough the other way to work between with a hoe. Of course I speak now of patches cultivated for home use, and not of large fields, where the object is the market. Alongside of Lennig's White Strawberry, therefore, set down Davison's Thornless Black-Cap, as a fruit for our country homes.

E. P. POWELL.



Profits of Small Fruits.

An Essay delivered before the Annual Meeting of the Pennsylvania Fruit Growers' Society, at Chambersburg, Jan. 18th, 1861.

BY WM. PARRY, OF CINNAMINSON, N. J.

(Continued.)

Strawberries, Raspberries and Blackberries are usually included under the head of *Small Fruits*, the *profits* of which are generally good when markets are convenient and care is taken in the selection of varieties and in giving them proper treatment. Sometimes we hear of extravagant reports, calculated from the product of a small lot up to what a ten acre field under similar circumstances would yield. A safer rule is to take the acres and see what they have produced annually. We kept a debtor and creditor account for several years with twenty-two acres in small fruits, which averaged, after deducting expenses, \$262 per acre.

By reference to the Third Annual Report of the West Jersey Fruit Growers' Association, page 21, who appointed committees to collect the returns from all the fruit growers in the neighborhood, it will be found that 776 acres of land in strawberries, raspberries and blackberries, produced the sum of nearly \$200,000, or about \$250 per acre.

Cranberries.—My remarks on “*Profits of Small Fruits*” would not be complete without referring to the cultivation of cranberries, which is a very profitable branch of small fruit culture, where the soil is adapted to their growth—and must eventually assume proportions and importance scarcely second to any other fruit crop grown in the State of New Jersey. We have thousands of acres unavailable for other purposes, but specially adapted to producing cranberries.

Low, marshy lands, and old ponds that can be drained and flooded again at pleasure, which in their natural state would not be valued at more than ten to twenty dollars per acre, after being cleared and planted, will often yield two to three hundred dollars per acre in cranberries annually, and sometimes more.

A fruit grower in Burlington county recently cleared up and planted twenty acres of moist land, which five years since was valued at five dollars per acre. Last year he had two acres in full bearing and eighteen acres only two years old; yet he realized from the cranberries grown there, a net profit of three thousand and two hundred dollars.

Another farmer and his sons, residing near by, have two hundred acres planted with cranberries—about one-third of which are in fruiting and yielded last year 3,300 bushels of fruit, worth over \$13,000. Six acres of which averaged one hundred bushels per acre, and were sold at four dollars per bushel.

Another farmer in the same county had, in 1869, twenty-four acres in fruiting; six and a-half in the tenth year of bearing, and seventeen and a-half in the first year of good bearing—which yielded 2,692 bushels of cranberries, and sold at three and a-half dollars per bushel, brought \$9,422; and after deducting \$2,222 for expenses, taxes, superintendence and commissions, left a net profit of seven thousand and two hundred dollars on the twenty-four acres: Averaging three hundred dollars per acre.

The six and a-half acres in the prime of bearing yielded more bushels of fruit than the seventeen and a-half acres just commencing.

The Forge Company, near West creek, in Ocean county, N. J., have about one hundred acres planted, fifty of which were in fruiting the past season, and yielded 3,400 bushels of cranberries, worth, at four dollars per bushel, \$13,600. Three-eighths of said tract was recently sold at one thousand dollars per acre.

I might mention the names of those parties, if necessary, but the object in referring to them was merely to enforce the principles and facts illustrated by their successful operations, which many others are pursuing; and hundreds of acres are annually being redeemed from a primitive, unproductive condition, and devoted to cranberry culture.

There are now in New Jersey about two thousand acres in fruiting, and produced last year 150,000 bushels of cranberries—and 4,000 acres more land have been prepared and planted and will be in fruiting hereafter. New Jersey now supplies more than two-thirds of the whole amount of cultivated cranberries marketed in the United States.

The late reports by the Agricultural bureau at Washington, for the year 1869, gives as follows, viz: to the

State of Maine.....	1,000 barrels.
Massachusetts	8,000 “

State of Connecticut.....	2,000 barrels.
and New Jersey.....	50,000 "

This amount of..... 61,000 barrels was derived principally from cultivated fields. All other States and Territories, including wild and cultivated cranberries, produce about 14,000 barrels; making a total of 75,000 barrels for the year 1869. The crop for 1867 was estimated at 62,000 barrels, of which New Jersey produced 35,000; New England about 12,000, and the West 15,500 barrels. The average price for 1867 was \$16 per barrel—giving a total value of one million dollars for the crop that year. The crop of 1869 commenced to sell at picking time, in Philadelphia, for nine dollars per barrel, and gradually advanced in price until spring, when the market value was twenty-four to twenty-six dollars per barrel! One grower in Burlington county, it is reported, sold a lot of six hundred barrels for fifteen thousand dollars.

The price of cranberries during the present winter has been about twelve dollars per barrel in Philadelphia.

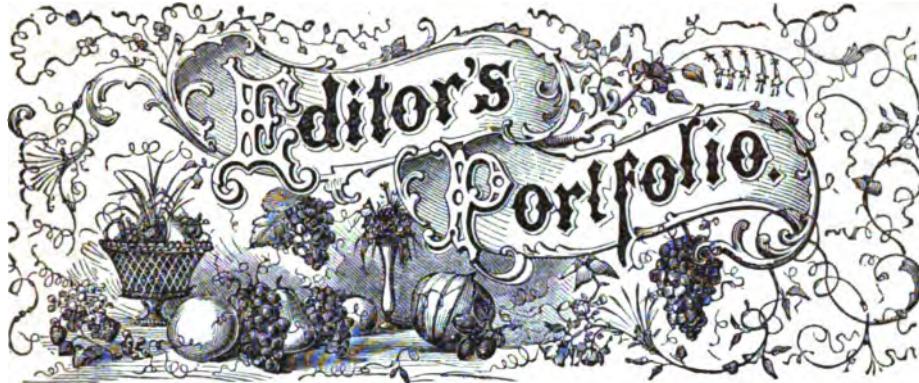
For seven years, from 1862 to 1869, the price ranged from fourteen to fifteen dollars per barrel, except in 1868, when the price was from twenty-two to twenty-four dollars per barrel, owing to the light crop.

The counties of Burlington and Ocean yield the greater part of the cranberries grown in our State; and in 1869 they produced 31,700 barrels; and all other counties in the State yield 18,300 barrels. The yield of cranberries last year was not so large per acre as in 1869, on account of excessive rains, with intervals of intensely hot sun during the time of blooming. But the quantity of land in fruiting was more, so that the yield for Burlington and Ocean counties amounted to 38,300 barrels, and the State producing about the same as in 1869—say 50,000 barrels—which, at the present value, gives \$600,000.

In embarking in the cranberry business, one of the most important matters is the selection of suitable land. The most productive cranberry region in the State is a belt of land underlaid with white sand, much of it pure silex, the upland covered with pine and scrub oak, the lowland and borders of streams with white cedar and an undergrowth of whortleberry bushes. The soil is light, a thin coat of vegetable mold covering the surface. The climate as well as the soil of this part of New Jersey is well adapted to the cultivation of this vine in the highest perfection.

The picking is usually done by men, women and children, at a cost of about fifty cents per bushel; many of the hands will gather three to four bushels each per day.

In sections of the country where strawberries, raspberries and blackberries are extensively grown, a good portion of the pickers come from the rural or cranberry districts, commencing with strawberries in June, and after finishing them, enter the raspberry fields in July, and in August the blackberries are gathered; after which they return home in time to commence in the cranberry fields in October, and frequently have steady work there until cold weather, thus having a long continuous harvest. Such of them as are industrious and frugal, may soon provide homes for themselves, and become proprietors of berry fields, and in turn give employment to others who are pursuing the same course of honest industry—a sure passport to wealth and competence.



Editorial Notes.

Carbolic Soap for Peach Borers.

In THE HORTICULTURIST for last month, in speaking of my remedy for the peach borer, the editor suggests that five pounds of soap to a barrel of water will make the liquid too strong, and prove injurious to tender roots if it reaches them. I have only to say that I have found no injury to result to bearing trees from this cause; but for young or small trees I would use about eight gallons of water to the pound of soap. Here I will answer the inquiry of a friend in Tennessee, who writes to ask me the capacity of a "barrel," or how many gallons of water I use for five pounds of the soap? The usual barrel, as a liquid measure, is thirty or thirty-one gallons; but in this case a few gallons more or less is not material—but safer more than less. I am using this liquid on apple trees with evident good effect. Will not other orchardists experiment with it and make known the results?

M. B. BATEHAM.

How to Pack Strawberry Plants for a Journey.

Take up good, sound, young and well established runners; remove all decayed leaves, tie them in bunches of twenty-five or fifty, with their crowns evenly arranged; wrap in moist, swamp moss; pack tight in an open box, with the crowns upward, and nail slats across the top to keep them in, and yet allow free access of air. Thus shipped, they will go long distances without injury. The best season for shipping in spring, is the last of April, and in fall, middle of September. Nurserymen sometimes take up large quantities and heel them in during the winter, and thus are able to ship very early the next season to Southern localities, or more distant points. In New Jersey it is a common practice to pack in barrels with the tops out, slats cut open for ventilation, and the roots turned toward the centre, and the vacant space filled in with wet sand. If the weather is cool they will go reasonable distances without any injury, although we are of the belief that in warm weather such a practice would be unsafe, and might cause fermentation. Plants should never be packed loosely, nor shipped in an unarranged mass. It is better to charge a little higher price and do the plants up more neatly.

Be careful of the Roots of Newly Dug Trees.

No newly-dug tree should have its roots exposed to the sun or drying winds for a single hour. We have seen instances of ill success where roots dug from the moist, cool earth, are exposed to the sun and drying winds for a full half day, or even two days; and it seemed as if all the arts of the planter could not coax life and energy into the tree. In transplanting trees the roots should be kept cool and moist, or as near the original temperature or condition of the soil they formerly occupied; otherwise evaporation takes place, which is hard to restore, and life gradually dies out. It is safe, then, for any one to refuse to take trees from any peddler or nurseryman which have been exposed to the air for over a half day.

Mowing of Strawberry Leaves after Fruiting.

Quite a number of strawberry growers have expressed incredulous opinions of the practicability of this plan, to which we reply that in every case that has come under our notice, it has been a complete success. Indeed, one gentleman in Central New York stated last fall to us that he had practiced it uniformly for eight years, and had never been obliged to reset his plants or renew his bed; while the luxuriance of his plants, and size and quality of his berries were matters of great notoriety in his own neighborhood. The propriety of cutting off all the old and exhausted stems, leaves, etc., after fruiting, will not be questioned, we think, by any one. We would only add, by way of caution, that wherever the plants are thus mown, and tops cut off, it is imperatively necessary to protect the crown with some mulch, until it shoots out a sufficient quantity of fresh green leaves to enable it to take care of itself. The following letter, confirmatory of our ideas, was written recently by Ira Smith, of Peoria, Illinois, to the Farmers' Club, New York City:

"Observing frequent inquiries made of the Farmers' Club regarding the propriety of mowing strawberry plants after fruiting, and that the members have been rather shy in giving an opinion, I offer the following experience of my own: About ten years ago, noticing, as had frequently occurred before, that after fruiting, the weather being hot and dry, many of my plants apparently fresh and healthy in the morning, would lie flat on the ground, withered, and seemingly nearly dead at night, as though something had severed the roots and cut off the supply of moisture. This being often repeated for a month, half of the plants would sometimes be dead, and the rest greatly injured. All strawberry growers have witnessed the same. It is called here sunscalded. On examination I found the roots whole, sound, and in good order, except as dry as a chip. The following hypothesis was then suggested to my mind as the probable cause: after putting forth their utmost strength in the production of a bountiful yield, the plant now, like all else of animated nature, including man, and, from accounts, divinity itself, requires a season of rest, and cannot at once replace the exhausted energy of the rootlets so as to gather in sufficient moisture to meet the excessive demand for evaporation from the leaves. The roots thereby being sucked dry, death necessarily follows from starvation. The remedy, then, must be in removing the demand for evaporation. The test was made by mowing a portion of the patch close down, and was attended with perfect success. Since then my practice has been, after fruiting, to mow them close to the ground, and if the weather is hot and dry, scatter the leaves evenly over the beds, and after thanking them for their nice acid fruits, bid them rest in peace until August and September showers come with their life-restoring influences. Under this treatment I never lose a plant, however hot the weather may be. After August rains they recommence to grow, putting out no new runners, but covering the ground with large, dark, thrifty foliage, and the largest and freshest new crowns for the next year's crop, and never fail in giving a first-class yield for the season."

Dwarf Pears.

At the Farmers' Club, N. Y., in answer to a question whether "Dwarf Pears can be converted into Standards by planting rather deep and hillling earth around the stem?" Mr. A. S. Fuller remarked, that they will nearly all become standards if the junction of the pear stock upon the quince root be put four inches below the surface. It is a good practice to remove the earth and cut several gashes at the swell of the graft, then replace the soil, and new roots will come out upon all sides, and the tree is therefore less liable to be upset by heavy winds.

Mr. Quinn remarked, in answer to a question about distances, "that twelve by sixteen feet is, I find, by long experience, the best interval for pear trees. Being thus near together, they protect themselves to a certain extent. I adopt the practice of having the fruit as near the ground as it can be well induced to grow. I prune to a cone or Lombardy poplar shade, so as to get a slim, tapering tree with fruit near the

"stem and near the ground. The only objection to this style of pruning is, that you cannot use your pear orchard as a pasture. But that is seldom desirable. If the trees are twelve by sixteen, they will tax the ground heavily enough without requiring it to grow grass. My success has come from four practices—rich manuring, close planting, open top pruning, and mulching."

Mulch as a Manure.

An experienced farmer once found, by experiment, that where he mulched his wheat land with veitch, he had an increase of crop of twelve bushels per acre; and he invariably found that land which had been sheltered during the previous winter from the action of the atmosphere, frost, cold, etc., was always more fertile than any portion of his adjoining land, even under a high state of cultivation. Our use of mulch upon small fruits, also confirms the above theory, for a good mulch invariably increases the production from fifteen to twenty-five per cent, as well as contributing very materially to the size, color and cleanliness of the fruit. We believe that mulching will always pay.

How Long will Asparagus Beds last?

As long as they are well taken care of. On the Mt. Pleasant property, in Amherst, Mass., there is an asparagus bed which has been in bearing for fully thirty years past, and in other sections of the country beds have been known to live for fifty and seventy-five years. In the vicinity of London the gardeners renew their beds every twenty years.

The Bartlett Pear.

The sale of the Bartlett Estate, on Boston Highlands, recalls the history of this pear. Mr. Enoch Bartlett, the former owner, was Vice-President of the Massachusetts Horticultural Society for many years, and was quite a noted horticulturist. Forty years ago he brought from his estate a choice pear, never before seen by the members. Mr. Bartlett and the members of the society supposed it to be a seedling pear, and out of regard to Mr. B., was named the "Bartlett Pear." But, in point of fact, this was an old English pear, well known there as "William's Good Christian," and had been imported by Mr. Brewer, who built the Bartlett house and laid out the grounds, some time about the year 1815. But the estate being, after a few years, sold, and passing into other hands, the history of this tree was not known until Mr. B.'s introduction of it to the Massachusetts Horticultural Society made it famous.

The Matilda Strawberry.

Mr. A. S. Fuller, in his report in *Horticultural Annual*, 1871, at last confesses that this variety does not maintain its promise—"it is splendid in every respect except quality, and in this I fear that it will disappoint those who have better sorts."

Our readers will please notice that this variety of strawberry is the very one exhibited at the Fruit Growers' Club, three years since, and for which the Editor of THE HORTICULTURIST received some entirely unnecessary criticism, because a premium was not awarded to it. It is gratifying at this late date to find the opinion of the Editor, who was then one of the judges, thus confirmed by one who was at that time among the very first to express dissatisfaction.

Peak's Emperor.

Mr. Fuller says of this: "There is a possibility of this proving to be the Agriculturist, or a seedling therefrom, so closely resembling its parent that good critical judges cannot tell the difference. It is claimed, however, that it was raised prior to the introduction of the Agriculturist; but this has not been proved to the satisfaction of all parties, and until it is, I shall consider them one and the same variety."

Florence Strawberry.

Mr. Fuller thinks this is "so nearly like its parent 'Wilson,' " that I do not think it should be disseminated as a distinct variety."

The Rural Club of New York.

We have not had space hitherto to notice properly this new and strong association of rural character. It numbers nearly 50 persons of prominent literary connections, or gentlemen of wealth, taste, and a love for rural life and subjects of horticultural progress and refinement. Two meetings have now been held at which an association of guests and members participated in a fine collation, after which there was discussion upon Flowers, Seeds, etc. It will, when fairly at work, have considerable prominence, as New York has never, hitherto, maintained a purely Horticultural Society successfully for any great length of time. This club hopes, by bringing in more of the social and festive element, as well as all branches of rural discussion, to create and keep up a society of high character, and realize a wide spread influence. At the last meeting, speeches were made by Horace Greeley, Hon. Geo. Geddes, S. B. Parsons, A. H. Green, J. S. T. Stranahan, Andrew S. Fuller, N. C. Ely, P. T. Quinn, Dr. F. M. Hexamer, J. B. Lyman and others. The officers are: Horace Greeley, President; J. B. Lyman, Recording Secretary; A. B. Crandell, Corresponding Secretary; H. T. Williams, Treasurer.

The association meets only quarterly, and the next session is about June 15th; discussion both practically and esthetically of *Strawberries*.

Garden Culture of Strawberries.

We find by experience that if cultivators will allow more room for their plants to form good strong hills, the produce will be much greater and the berries much larger. Two feet apart is near enough for large hills, and just before setting out the plant we would throw down a big forkful of well-rotted barn-yard manure. It is well also to add a couple handfuls of bone meal or superphosphate. This has an admirable effect in producing large quantities of berries. The bed system of growing Strawberries, rarely is satisfactory; it is an immense trouble to keep it clean, free from weeds, and almost impossible to control the plants and prevent the too free formation of runners. Where the parent plants are neglected, and runners allowed to form freely, depend upon it, the bed is beginning to run down. The hill culture of Strawberries and careful clipping of runners is the only judicious system of management. An item worth noticing is this, that on heavy lands your berries will be late, but the produce will be very heavy, while on light lands the produce will be light, and also very early. For family purposes we recommend the very richest part of the garden; yet we would not stimulate them too much with ammoniacal manures. In fact the best crops we ever had were grown upon land where bone meal had been used with great liberality. There are some soils upon which must be grown particular varieties. For instance, the Triomphe de Gand must be grown upon clay land; Jucunda upon shaly clay; Russell's Prolific and Wilson's Albany will always do well on light loamy land; La Comtante must have a cool Northern climate and heavy land. Of the later and most desirable varieties, Boyden's No. 30 and Charles Downing will grow well almost anywhere; Barnes' Mammoth variable, but does well on light land, if runners are allowed to spread moderately around the parent vine. There are few or no soils we have yet heard of but will grow one or more varieties of delicious Strawberries, but *careful* culture every week during the season is the only way to be successful, no matter what may be the soil or manure.

Labels.

Wooden labels for plants to be inserted in the ground, may, it is said, be preserved for an indefinite time by first dipping them into a solution of one part vitriol and twenty-four parts water, and subsequently immersing in lime water, or a solution of gypsum.

Wauregan Raspberry.

The same authority regards the Wauregan as "no more or less than the old Belle de Fontenay, a hardy, perpetual bearing sort, well known among nurserymen and fruit growers."

Woodward's Gardens, San Francisco.

Mr. R. B. Woodward the proprietor of these famous Gardens, has been lately adding some new and choice botanical specimens from foreign countries; orchidaceous plants are well represented. In the green houses is a superb specimen of the Banana plant, just in flower and forming its young fruit. The Pine Apple is represented in 20 or 30 plants now in fruit. A fine collection of Azaleas in full bloom is represented there, as also plants of the *Dracaena fragrans*, the *Phormium tenax* (*New Zealand flax*), the Ramie plant and a score or more varieties of the Acacia. In the new Mammoth Pavilion, Mr. Woodward gave a fine entertainment to 10,000 Sunday School Scholars recently, which was one of the most enthusiastic and delighted audiences ever gathered together in that city.

Curculios.

The easiest way undoubtedly to kill the Curculio is to spread a sheet on the ground, then jar the trees, and destroy the fallen fruit. The jarring must be done in the cool of the morning, while the Curculio is dormant and before the sun warms him up. A correspondent of *The Ohio Farmer* tried this plan on four choice trees that had been set fifteen years from which he never got a dozen perfect plums. "The first morning that I spread the sheet, as I had never seen the *critter*, I did not know what to look for. I picked up what I supposed to be a plum bud, but on giving it a slight pressure found it was alive. The first morning I caught one hundred and three; second, ninety; third, fifty-one; fourth thirty; fifth, eleven; and sixth, one."

The Butter Pear.

Mr. Satterthwaite in his remarks about Pears at Chambersburg, Pa., last January, commends specially the above Pear. It is one of which fruit cultivators generally have heard very little, and hence we quote Mr. Satterthwaite's remarks in full. "A splendid, large and exceedingly productive pear of first-rate quality, very remarkable for bearing enormous crops from the time the tree is first planted, and the tree all the time is making the most vigorous growth. It is also an excellent keeper. I consider this a fruit of great promise."

A Little Bed of Herbs.

Every family should have its little patch of "Herbs." They are easily obtained; some of them are perennial, and require replanting only once in several years. The seed can all be found at our agricultural and horticultural stores. The list is as follows: Sweet Marjoram, Marigold, Thyme, Winter and Summer Savory, Coriander, Aniseed, Rosemary, Lavender, Sweet Basil, Caraway, Fennel. Thyme, Winter Savory, Fennel, Lavender and Sage are perennial; the others require the seed to be sown annually.—*Germantown Telegraph*.

Susqueco Raspberry.

Mr. Fuller says, in his notes on Small Fruits for 1870, "it is a dwarf-growing variety, resembling the Pearl, a native red raspberry, cultivated to some extent by small fruit growers in the vicinity of Philadelphia. It is one of the very best of our native sorts, and by keeping the plants well mulched in summer, they will continue in fruit for at least two months. Like all our native red raspberries, it produces a great many suckers, but the canes are perfectly hardy, and generally quite productive."

American Pomological Society.

The Biennial Meeting of this Society will be held at Richmond, Virginia, September 6th and 7th next. This meeting will be an unusually interesting one, and is likely to draw a large number of fruit growers together from the South especially. We think that there will be but a small attendance from the North.

Naomi Raspberry.

The same authority states: "I am confident that it is nothing more nor less than the Franconia."

The Blight in Pear Trees.

Several nurserymen in Geneva, New York, are now using salt freely in their Pear Nurseries, at from 200 to 400 lbs. per acre yearly, and say that it has a wholesome tendency to correct the disposition to blight, as also to prevent it for the future. Certain it is that where used there have been less indications of its prevalence than in other parts where it was not used. We believe that salt is yet to play a very important part in our agriculture and horticulture as a top dressing or for mixture with concentrated manure. It is now, together with lime, the very best of all applications to mix with muck and reduce it to a friable condition. Iron shavings, copperas in solution have also been used, as also Potash manure, and been found of special efficacy in restoring the trees to full health and renewed vigor. An instance in point is just related by a correspondent of the *Rural Messenger*:

"I had a very fine pear tree (*Flemish Beauty*) that became affected, first by blight in one limb, which I removed, and then another and another was affected in the same way, until I had removed a considerable portion of the top of the tree. Early next spring I resolved to try the application of scrap iron to the roots. I procured my iron, removed the soil from the roots carefully, deposited the iron between them, and replaced the earth. There was no further progress in the blight, the tree continued to grow that season, and the next leaves and blossoms came out vigorously, no black spots appeared on the leaves and the tree bore finely, and no appearance of the disease was in the tree afterward. In subsequent conversation with friends I found that some of them had become informed on the same subject, and had tried the same remedy with perfect success. Some told me that they had procured turning and drilling chips from the machine shops and had used them, as they thought, with much advantage to their trees.

Prospects of Fruit.

In Delaware the prospects for Peaches promise the largest yield ever known. Strawberries will be a moderate crop, about $\frac{1}{2}$ to $\frac{1}{3}$ have been injured by a frost in the latter part of April.

In New Jersey there will be but few Strawberries, serious frosts having damaged them severely.

Around Cincinnati, nearly all the Strawberry blossoms were destroyed by frost.

In Central Illinois, the prospect for fruit is excellent, although some sections have suffered severely from late frosts.

Pears all over the country will be only a moderate crop, not over $\frac{1}{2}$ or 3-5 of last year. We think that the prices of all fruit will be well maintained, this year,—and less gluts than usual.

Iron for Pear Trees.

A correspondent of *The Country Gentleman* says that if copperas and saltpetre water are used around Pear trees, the trees will show the effects in a large yield of fruit. He tried this on a Bartlett Pear tree that had yielded no fruit for two years previous; that very year it yielded 155 large fine pears, and the following year 250 equally fine ones, and is still doing finely. "If Pear trees want iron, which most of our soils is deficient in, sulphate of iron or copperas is a good way to supply the deficiency."

Potash Fertilizers.

These German Salts of Potash have been introduced into this country, and some sales have been made. We are informed that these salts now sold here are not genuine Leopoldshall Kainit, but adulterated or calcined and ground with other materials. Only one person, Otto Radde, has the exclusive privilege of exporting these salts from Germany, and a guarantee goes with each lot sold, from him. We are experimenting with the lot now imported and sold here, and will investigate the value of them,

Ever-Blooming Roses.

Coleman's Rural World says that many persons are disappointed because their roses do not bloom constantly all summer, expecting from their title of Perpetual that they should do so.

Now, the class of roses called Hybrid Perpetual, or Remontante, is not exactly rightly named—that is, they do not bloom perpetually, but only at intervals. They bloom full in June, and then give a few scattering blooms along during the summer, and a good display again in Sept., doing better or worse, according as they are ill or liberally treated. This class, however, possesses the most brilliant colors, largest sized flowers, and fullest and finest shapes, and is deservedly very popular. But the true and real ever-blooming roses belong to those classes usually called tender roses—the Bengal or China, Tea, Bourbon and Noisette; these, though more tender, and less robust than the other classes, are not absolutely tender, but, in our latitude, by selecting the hardier varieties, may easily be preserved through the winters by necessary protection.

The simplest and surest method of protecting these classes of roses, is to peg them close to the surface of the ground, then cover with a few inches of coarse litter. Strawy stable manure is best, in our opinion. Throw on a little soil to keep it in place, and do not fail to cover the crown of the plant. Even if such manure is drawn up around their stems six or nine inches high, the roots and lower branches are saved; and if the tops get killed, they can be cut down, and they will bloom as freely as though all the top had been saved. This latter plan can only be adopted where the plants stand closely together in beds, which, indeed, is the most effective way to grow these, as well as the Remontante roses. Beds should be prepared exclusively for their benefit, and if the soil is a clay loam, well rotted manure may be added, and the beds spaded deeply, raising the surface of the bed a few inches above the natural level of the ground.

The plants of these dwarf-growing varieties may be distributed about three feet apart over the beds, and a vigorous growth should be kept up by clean culture, stirring the soil often, top-dressing and digging in annually.

The following would comprise a dozen good varieties for such a bed; some one would choose other varieties, doubtless, but these are believed to be as good as any.

Hermosa, pink; Duchesse de Thuringe, waxy, clear white; Cels, creamy white; Gloire de Dijon, blush and yellow; Eugene Beauharnais, deep crimson; Madame Breon, rosy crimson; Bougere, bronzed rose; Amie Vibert, pure white; Daily Pink, a profuse bloomer; Agrippina, rich velvety crimson; Triomphe de Luxembourg, salmon buff; Saffrano, fawn color shaded rose.

The Best Pear.

We notice that the testimony of experienced fruit-growers now points to the *Beurre d'Anjou*, while the *Lawrence* fully equals it in popularity. It is hard to decide between the two, but we believe there is more money to be made by planting the latter, as it is a much more prolific tree when full grown. The *Beurre d'Anjou* loses its size very much if allowed to hang too full on the trees. It needs thinning more than any late Pear we have. As a Dwarf it is superb; and we think in time will be found quite as profitable as the *Duchesse d'Angouleme*. The *Beurre Clari-gneau* is acknowledged to be the very handsomest of all our winter varieties; but somewhat unreliable as to dropping both leaves and fruit before it matures; hence cultivators are planting it very cautiously.

How to grow Canteloupes or Musk Melons.

The public seem to be inclined to drop the familiar name of Musk Melons, and are adopting the old style cognomen of *Canteloupe*. The *Germantown Telegraph* says that the culture of this garden fruit is becoming more general. Almost every person having a garden of any size is beginning to try his hand at it, and it can be done with almost as much success as raising a crop of corn. The ground should have a

warm exposure and be friable—clay mould not being adapted; the hill should be dug out eight to ten inches, two feet in diameter, and filled with well-rotted manure, rich soil and sand—turnpike dirt is excellent as a substitute for the latter. Five or six seeds should be put at equal distances about an inch in depth, and the “hill” should be even with the other soil. The hills should be about six feet apart each way, and the plants, when they have passed all danger, should be thinned out to two or three in a hill. The beds must be kept clear of all weeds and grass, and when the vines commence running they should not be disturbed, as the rootlets connected with the vine, and by which it is largely supplied with nourishment, will be broken. The ground, as the vines begin to extend, should be gone over with an iron rake, especially after a heavy shower, to loosen it and give these rootlets a chance to take hold. The seed should be planted at the time of corn-planting.

Sowing round the hill, a few inches distant, early radish seed, will sometimes protect the young plants from the bugs, and always will be more or less beneficial. Should bugs appear, a sprinkling of weak whale-oil soap and water will soon send them adrift.

The best variety of canteloupes to plant, in this section, is the “Citron,” the “Jenny-Lind,” and “Cassaba.” The Nutmeg is too late for us. There is a white canteloupe, which is remarkably fine, but it seems only to be a “sport,” and not a distinct variety.

There is no reason why all our farmers should not have a patch of canteloupes for family use. A plot of ground 40 by 20 feet would be enough for a moderate-sized family.

Trimming Evergreens.

I am often asked the question: Can evergreens be trimmed, and if so, when is the best time? After quite a number of years' experience, I have found the best time for trimming pines is after they have made most of their growth, that is, the White Pine, Austrian, Scotch and Corsican.

Evergreens grow in the first part of the season, and after they are nearly done growing, before the wood becomes hard, pinch the new wood off with the thumb and finger, or cut it with a knife. This, I think, is the best way to trim pines.

For Norway, Spruce, Balsam and Fir it is best to trim early in the season, before they commence growing, say from the first of March to the last of April. The Balsam does not require much trimming, unless it is cut off the side limbs, so as to keep the tree in good shape. If the top is cut off, the growth will be retarded very much, in some cases for two years or more. But this is not the case with the Norway and Spruce, if the top is cut off, it will make a vigorous growth in the same season. As the wood is hard, it is best to use a sharp knife. Hold the knife so as to cut from the underside, then it will not show.

For Junipers, Arbor Vitæ and Red Cedar, the best tool to trim with, unless large limbs are cut, is a pair of sheep shears.

Persons wishing their trees trimmed will find this way very good, and resulting from experience. A very little time spent will keep any tree in good shape.—*Cor. Medina, O., Gazette.*

Vicar of Winkfield Pears.

John Jay Smith says in *The Gardener's Monthly*, that he priced Vicar of Winkfield Pears in one of the Philadelphia fruit stores, last January, and the modest price asked was 75 cents each,—they were very large and fine.

Phlox for Garden Culture.

We know of but few varieties of hardy plants that better repay the grower than this very beautiful and desirable diversified genus, that will afford such variety of colors and prolongation of bloom. In colors, we have them from pearly white to deep crimson, with all the intermediate shades and variations, many of which are highly fragrant. They will grow well and bloom profusely in sunshine and in shade,

making them well adapted to any location, and one of the most useful plants we have for shrubberies or gardens—are especially to be relied on for the flower garden, because they require but little care, in fact they care for themselves; are of the easiest possible culture—growing and blooming well in any good garden soil—and are easily grown from seed. Seedlings blooming the second year are easily propagated from cuttings; also, by division of the roots. Every eye with a bit of root will grow readily. Division of the roots should be performed early in the spring as they start into growth, or in the fall, immediately after they are done blooming. When stirring the soil around them in the spring, they should be examined, to see that they are not too high out of the earth, as there is a tendency with them, as with most herbaceous plants, to grow out of the ground, or be heaved out by frost. When this is found to be the case, take up and re-set the plants before their growth is too far advanced. You will be amply repaid with a finer show of bloom and a greater luxuriance of foliage by forking in a little well-rotted manure around the plants each season; also, by pruning out the weaker shoots. An occasional watering, should the season be dry, pays well. This splendid genus has undergone great improvements in the past few years under the eye of the florist, in the size of its trusses and the brilliancy of its many fine colors, as well as the prolongation of its time of blooming from spring to autumn.—*Ex.*

House Plants.

At a late meeting of the Rhode Island Horticultural Society, there was some pleasant talk about *House Plants*.

Mr. Levi Metcalf said he had been quite successful this and previous winters in raising varieties of hyacinth, and other plants, in pots, in a Wardian case at a window, where the plants had the sun about two hours and a half every day. The case should be kept open, or they need expect no blooming plants. The hyacinths would look, after the sun had shone in on the closed case, as if they had been dried or steamed. At night, however, when he lit the gas, he would always close the case. He would recommend everybody to have a case of the kind, rather than to grow plants in or upon a window. The case had better be laid on a table, lined with zinc. Fill the case half full with good clean sand, put the sand in dry; the moisture would go through the pots and the glass would be wet in the morning, sometimes too much so. The general trouble in growing house plants was that people lived in too warm rooms. Most plants were best suited by a temperature of about fifty degrees, while some plants grew better in a higher temperature. About fifty degrees was best for japonicas, geraniums and carnations, while most people like to have their rooms at a temperature of about seventy degrees.

Where a person had but a few plants, they could be cleared of insects at any time they chose, but he thought it indispensable to take out decayed matter from the case as soon as convenient. He was in the habit of re-arranging his plants once a week or so, as a means of refinement.

The president thought there was very little difficulty in growing hyacinths in the house in pots. He begun ten years ago, and soon arrived at one result, that for plants to flourish in the house there must be moisture in the air. He lived in a large house, heated by a furnace, the air was very dry, the furniture cracked with the heat, there were seams in the doors, and the skins of the people residing in the house appeared parched and dry. He introduced a system of ventilation, and found that a great change followed for the better. The furniture no longer cracked, the seams in the doors closed up, throat and lung ailments ceased to trouble the inmates of the house, and the plants began to flourish. From this experience he drew the inference that the air necessary for plants was also necessary for the good health of men, women, and children. He had been led more lately to believe that lack of ventilation affected plants even more than lack of moisture. Sulphuric acid accumulated in rooms kept closed for some time, and that acid was fatal to plants. With his rooms

properly ventilated, however, he had found that the plants flourished as well as in the old-fashioned houses with fire-places. Plants needed occasional washing, and to be kept carefully clean of insects. He had carried one hundred plants through winters, on all sides of the house, north, east, south and west, without losing any of them, and having flowers all the time. Another gentleman said that epsom salts were effectual in removing insects from plants.

Petunias.

This old, well known, popular bedding plant, has been most wonderfully improved during the past ten years; from the small, single, self-colored varieties have been produced the most gorgeously and elaborately marked varieties; beautiful double ones with the sweetest fragrance.

Coquette—Changeable ground colors of purple and white, with distinctly defined bars of blue radiating from the centre outward.

Fascination—Clear, fine rose, with white centre.

Lady Douglas—Purple and Violet, shaded white.

Striata Superba—Pure white, blotched and striped carmine; beautiful.

Warrior—White lilac, striped carmine.

Above are single varieties; the following are double:

Inimitable—Flowers blotched, the centre petals are richly flaked with white and violet.

Marginata Monstrosa—Flowers four inches in diameter, beautiful mauve flower, tipped and splashed with green.

Edward Beech—Clear white ground, striped dark chocolate; fine.

Queen of Whites—White, very double, fragrant, and the best white yet produced.

Albert Victor—Double; lilac purple; good.

Heiress—Solferino, mottled and shaded white.

Duke of Argyle—Lilac and purple, veined white.

President Lincoln—Imbricated carmine and white with deeper shade; very sweet.

Annie—Brilliant white, blotched and spotted violet and crimson.

Atalanta—Rich crimson ground, shaded rose, with inner petals edged green, and outer ones with dark green belt; very fine.

Sherman—Scarlet and crimson, with distinct blush shade, one of the best.

The Petunia is easily handled, its great requisites are light and a good soil. It will not prosper in a shaded situation. Succeeds well on mounds, where it should be pegged down to give it a good bedding form. Cut away most of wood when lifted in the fall to bring to conservatory, or for keeping in cellar over winter.—*Thompson in Rural World.*

Japanese Lilies.

The Japanese Lilies are so hardy, as well as beautiful, that they should become as common as the Turk's Cap and Tiger Lilies. They are now all moderately cheap, and if one only has a bulb or two to start with, the stock may readily be increased. If left to themselves, the bulbs become large clumps by natural subdivision, but this is a slow way of multiplying them. If a lily be taken up in autumn, after the leaves have withered, there will be found upon the stem, just above the old bulb, a mass of small bulbs intermingled with roots. A dozen, and even more, are frequently found. The little bulbs may be removed and planted out separately, or the stem to which they are attached may be cut off just above the old bulb, and set out with the cluster of bulbs and roots attached. They should be covered the first winter with a few inches of litter. The next season they will make strong bulbs.

Another method of propagation is from the scales, of which the lily is mostly made up. These scales are attached to a solid portion at the base of the bulb, and they are broken off close to this, it being important to get the very base of the scale. The outer scales of a bulb may be removed without injury to it. Indeed, the majority of those offered for sale by florists have first been deprived of their outer

scales, which makes the bulb look better, and at the same time gives them material for propagation. The scales are set out in an upright position in boxes of sandy compost, pressing them down into it until the point is about level with the surface. The boxes are to be placed in a room where they will be at about the temperature of 50 or 60 degrees, and kept just moist enough to prevent shrivelling. In about two months a small bulb, sometimes two, will be found at the base of each scale. In spring the boxes are plunged in the open ground, and the bulbs allowed to grow all summer; in the following autumn cover them with litter, and the next spring if too thick, they are to be planted out separately.—*Exchange*.

Pears in 1870.

P. Barry, in his Notes of Pears for the *Horticultural Annual*, states: "The crop of *Beurre d'Anjou* was lighter than I have ever seen it, but what there was of it was very fine. *Josephine de Malines* were extraordinary in size, and generally marked with red in the sun as they have very rarely been before. Clapp's Favorite was very fine, showing it to be as reliable as the Bartlett. Prices were well maintained. Summer varieties were sold at Rochester at from \$2 to \$3 per bushel; autumn varieties at \$4. Some that we sent to Philadelphia were sold at \$8 to \$10 the half barrel, of nearly one and a half bushels. In one case eighty pears—*Duchesse d'Angouleme*—filled the half barrel, making 12½ cents a-piece."

Rhododendrons and American Plants.

Mr. Edward S. Rand, Jr., has issued the above new book, from the press of Little, Brown & Co., Boston. It has been a favorite subject with him, and as yet but little referred to in the horticultural literature of the day. His collection of Rhododendrons is believed to be the largest in the entire country, and increases yearly. He says: "These plants are attractive at all seasons; in flower they are magnificent; in foliage they excel any evergreens. They can be grown as easily as lilacs, and bloom quite as freely."

Considerable space is devoted to Azaleas and Kalmias. The list of varieties is very full and complete, and we are glad to find that he has compiled several hardy lists of best varieties most suitable for the general planter. The publishers have done justice to this excellent work by excellent type and paper. Price, \$1.75.

California Raisins.

A correspondent of the *San Francisco Pioneer*, writing from Southern California, says: "Mr. Smith, of Ancheim, six miles from this colony, showed us raisins of his own curing that were equal to any that are imported; and he informed us that he had simply cut them off and thrown them on the ground to dry. He plants about 1,000 vines to the acre, and says, when in good bearing condition, say five years old, they produce about twenty pounds of raisins to the vine." Orange trees nine to ten years old yield 1,000 oranges per tree. English Walnut trees, ten years old, yield \$10 per tree each year; twenty-six are planted to each acre.

Mr. Wilder's Lecture on California.

The citizens of Philadelphia had an excellent opportunity, last April, to listen to Mr. Wilder's lecture on California. It was exceedingly interesting, and the audience were well entertained. A reception was given after it, as also an entertainment by the officers of the Pennsylvania Horticultural Society.

Wire Fences and Trellises.

Mr. Philip S. Justice, of Philadelphia, has invented a very cheap and convenient wire fence, for either the front of pleasure grounds, or as division lines, or as trellises for vines. The cost is so cheap, and the convenience so great, that we shall not wonder if they meet with general favor from the public.

Newspaper Changes and News.

The Rock River Farmer is a new agricultural monthly, published at Dixon, Ill. Price, \$1 per annum.

Sloan's Architectural Review is a failure, having suspended last November.

The *Western Gardener*, through a fire and the burning of its office, has lost its subscription books, causing considerable trouble in mailing numbers to its subscribers. The publishers request all who notice this fact to write and send their names at once to them for correct entry upon a new book.

Our Home Journal, a new Illustrated Agricultural and Home Weekly, from New Orleans, \$3 per annum.

Tennessee Agriculturist, McMinnville, Tenn., weekly, \$2.50 per annum.

Attractive Strawberries for Market.

I would say that fruit that has a high color—glossy and bright, always sells well, even if but of ordinary size; hence, it behooves every grower to give his fruit this peculiar lustre or gloss. This can only be done by heavy mulching with coarse litter-like straw or hay. This keeps the surface moist, and prevents the sun's reflection from burning the fruit, and giving it that dull, dead appearance that too much fruit on the market stands have, and which so operates against their ready sale at paying prices. And, too, vines that are well mulched are not so apt to produce fruit that is knotty and hard. Here, then, is one important requirement to grow first-class fruit. I could not but note the appearance of fruit on the stands in New York last spring, and could tell at a glance, from that peculiar glossy appearance, which came from plantations that were mulched properly; and those who purchase fruit soon learn this; hence the quick sale of certain brands.—*Small Fruit Recorder*.

What Apples to Grow for Market.

Dr. Hull, of the *Prairie Farmer*, visited the Chicago markets last fall, to ascertain the relative value of the different varieties of apples. Here is the results of his tour :

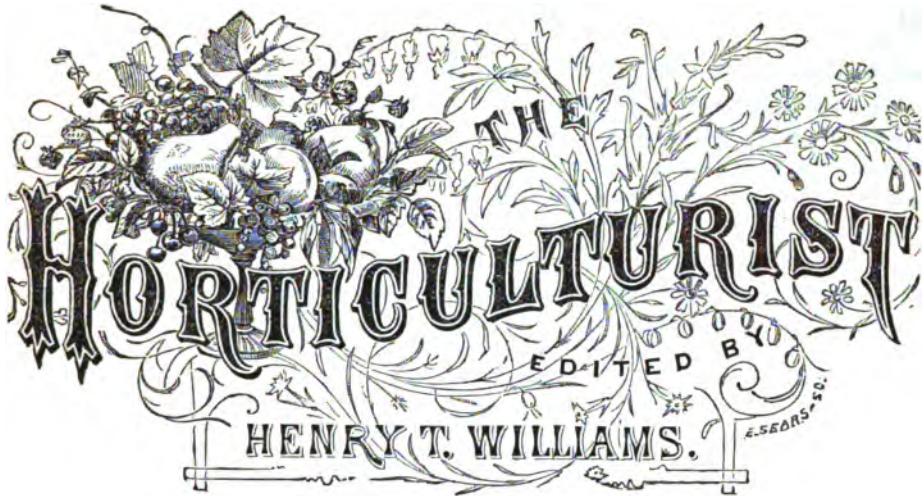
"One house visited by us in February last, which purchased and stored upwards of twenty thousand barrels of apples the past fall, for the winter trade, were then putting them on the market. Ben Davis, and other handsome, but inferior apples, were selling at \$3.75 to \$4 per barrel. Baldwins, \$4 to \$5.50. R. I. Greenings, \$6, while a variety known as Pomme Grise, a small gray apple, not better looking than medium sized Roxbury Russets, but possessing qualities superior to any variety known to us, were selling to regular customers at \$8 the barrel. And, we are assured, six times as many R. I. Greenings, at the price named (\$6) could be sold as of any other, because of its well-known, good eating and cooking qualities. In other words, people had come to know it, and would rather pay these extra rates than take the risk of getting the beautiful, but greatly inferior fruits."

Big Asparagus.

Shirley Hibberd, in the London *Gardener's Magazine*, thinks that all the *Giant* and *Colossal* character in asparagus comes simply from "difference in culture, rather than difference in seed." Wide planting will undoubtedly give large shoots and more of them from each hill; but how is it that when two beds are put out side by side, one will be large and fit for cutting a year before the other? This is the way Conover's *Colossal* acts here, near New York.

Editorial Acknowledgments.

To Miller & Hayes, for one package of plants. To C. A. Reeser, for one box of flowers. To Marshall P. Wilder, for 100 plants of the President Wilder Strawberry. For American Agricultural Annual, 1871. For American Horticultural Annual, 1871. For Transactions Massachusetts Horticultural Society, 1870.



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Home Gardens.

Strawberry Beds.

THOSE beds which have done yielding their fruit should now be carefully over-hauled and thoroughly cleaned out, old leaves should be clipped off, weeds pulled out, and the ground made clean, clear and mellow; the success of next year's crops depends entirely upon the care of this year's plants from now until October. If neglected the fruit will fail. If any are too skeptical about the efficacy of removal of all the leaves from the tops of their plants, let them try but a few plants this year. Select a dozen and clip off all leaves, old and new, cover them with a moderate sprinkling of mulch, so as to keep off the hot sun, and let the mulch remain for a couple of months until the new leaves have been formed. If this plan should prove a success on first trial, the cultivator can thereafter extend the system to his entire bed. The philosophy of the practice is simple, being to clear off all incubus and draft upon the plant, such as old leaves, stems, &c., and to permit the roots to form a new top or breathing vent and new and more healthy and vigorous fruit sets. We have yet to learn of a single failure where the work has been properly done. The mulching is indispensable to perfect success.

Mulching a Protection Against Drouth.

Our article on mulching published two years since, was widely copied throughout the United States, and has had an effect in drawing the attention of fruitgrowers to this practice as the only true and sound one for the successful cultivation of fruit and the preservation of trees through varying seasons of dry and hot weather. Strawberries are now generally mulched, and less gritty or sandy fruit is now seen in our markets than ever before.

A sagacious small fruit grower near New Brunswick, N. J., mulches his place heavily and never removes it from one year's end to the other. His soil is always

cool, mellow, and his trees and vines never suffer from heat, his fruit is large, fair and delicious, and his produce is extraordinary in quantity.

For all newly planted trees in the spring of the year, mulching is the only safe guarantee of their success,—without mulching many will fail; with it, not one should be lost. The practise is also a saving of labor, and if the mulch is applied two to three inches deep, it will keep down all weeds.

Mulching can also be used to retard fruit three to ten days in time of ripening. Upon sandy light soil, currants can not be grown without it.

Pears dropping from the tree are safe from bruises. Tomatoes mulched with it, will double their produce. We scarcely know of a single objection to mulching, and in our experience it has proved one of the most economical and efficient aids to fruit culture ever brought to the notice of the public.

Sowing Tomatoes.

We have uniformly found that where tomato seed has been sown in the hill where the plants are to remain, and they are not transplanted, we can obtain more than double the quantity from plants that are transplanted. They will be somewhat later, but larger and finer fruit. Transplanting has the effect of inducing early ripening at the sacrifice of an abundant quantity and large size.

How to Make a Small Fruit Farm Pay its Way.

First.—Never run in debt for land or improvements or stock. Interest to pay will eat up all your profits.

Second.—Spend on manure all you can spare. Manure is like judicious advertising, sure to come back again with double interest. Keep cows, and make manure; keep a good compost-heap under way. Never spend a cent off the farm for fertilizers.

Third.—Do not depend upon fruits exclusively for a living, but have some extra land to give you corn, potatoes, beans and other farm produce for home support and comfort. Raise enough hay, grass and grain for your horse, cows, and keep some pigs and poultry. Eggs, chickens and butter will help pay your store bills. The sale of your calves and hogs will help give you a good winter outfit.

Fourth.—Do not depend upon one kind of fruit, but have a variety ripening from the earliest down to the latest of the growing season—aspargus—strawberries, raspberries, blackberries, early pears, late pears. Do not attempt too much; two acres of each will be enough to succeed well with on a moderate capital.

Fifth.—Be prepared for a good many disappointments—bad seasons, late rains, at times unprofitable markets, sometimes untrustworthy agents. Choose a farm near a good thriving town and work that up. Market your own fruit yourself as far as possible.

Sixth.—Be prepared to invest considerable capital in small fruits before it becomes successful. Your first crop of strawberries will rarely ever pay more than enough for the expense of plants and planting; the second crop will hardly pay for the berry baskets, and the third crop will only give a margin for making up deficiencies here and there. It is only after the third year that profits can be counted.

Seventh.—Small fruit culture is only profitable to those who start with capital, no debts, plenty of manure and can "hang on" to the very last.

Killing Grubs.

The following cheap and efficacious method is given in a late number of *The Gardeners' Monthly*: "Dissolve a coffee-cup full of salt in hot water, then put into a common sized watering pan, and fill up with cold water. Just give each plant a gentle switch over with this mixture, and they will disappear in a moment, and the salt and water will nourish the plants wonderfully. All greens are fond of salt and water. Some people would be afraid of killing their cauliflowers; but it must be borne in mind that the salt and water will not penetrate the leaves. It runs off to the roots, killing every caterpillar in its way."

Soil for Gladiolus.

The Rural Messenger says, that a deep mellow soil with an abundance of sun and air, yet light and rich from the previous year's manuring, is far better than soil in which fresh manure has been just applied. The former will give immediate and continuous stimulus to the bulb, while the other will afford an overdose in June and early in July, failing therewith as dry August and early September comes, and it will not recover until the bloom is over and gone.

Bulbs planted in light, dry, thin soil, or with fresh manure, for support, generally burn up and die out in midsummer with the heat.

If bulbs are ready on hand in the spring time, and the soil is not ready, pack them in moss, wet with tepid water, and lay them, not in the sun, but in a warm room a few days, or until the ground is fitted for them. The earlier a hill is started the better its bloom.

When planting, it is a good practice to surround the bulbs with clean soil; but unless the soil is of a rather heavy or clayey nature such practice is not absolutely essential to success. Plant the bulb two to three inches deep—the latter depth for heavy soil—and at distances of eight inches apart each way.

Trellis for Tomatoes.

Over each hill of tomatoes place a four-square frame made as follows: Let the upright pieces be about two and a-half feet high, one inch square. Select three pieces of lath one foot to one and a-half long and nail crossways. One across the top of the upright sticks and the others at distances of nine inches below. Place this over the hill before the plant has grown a foot high, and train the stems upon the lateral supports; thus the fruit is kept from the ground and will double in size and perfection of quality.

Summer Pruning Small Fruits.

Summer pruning does away with the necessity of staking and tying raspberries and blackberries. It does more than this; it increases the amount of fruit, makes it of better size and flavor, and gives the canes a form and a degree of hardness which enables them better to resist the severity of Northern winters. Without summer pruning these small fruits cannot be grown with profit or with any degree of certainty as to yield. A plantation neglected in this particular would soon run out.

The Black Cap Raspberries should be checked in their upward growth when about two or two and one-half feet in height. The work may be done either by pinching or cutting. If the patch be large, a convenient method is to clip the tops."

young canes with a common corn knife, and the work can be done about as fast as a man can walk along the rows. The upward growth being thus checked, the side branches start vigorously, and push out long and assume a drooping form. A new upward growth usually will not begin again, but in case it should, the cutting or pinching must be repeated. We should not check the growth of the side branches, unless they interfere with cultivation the first season, but shorten them in early in the spring of their bearing year.

The Antwerps and their class should, also, be summer pruned when the shoots are about the same height. It is an object to promote the growth of side branches, as on these most of the fruit will be borne. Thus shortened the canes become stiff enough to support themselves in an upright position without the use of stakes.

Blackberries must be shortened in as above described, if the grower gets any profit or comfort in trying to produce this fruit. It produces the same effect as on the raspberries, viz : causing the side shoots to grow with vigor, and these must be severally shortened next spring. With this management staking may be entirely dispensed with, as, indeed, it is in plantations where these fruits are cultivated on a large scale for market.

Too many new canes should not be allowed to grow in a hill. Three or four of the Black Caps are sufficient ; four or five of the Antwerps and this class, and two or three of Blackberries. If more appear they should be cut away.—*American Rural Home.*

The Value of a Good Garden.

A writer in *The Prairie Farmer*, says :—A man of my acquaintance, who follows a professional life, more than half supports for six of the spring, summer and autumn months, a family of five from the products of a spot of land considerably less than a quarter of an acre. The outside is set with the hardier small fruits, which, coming each in their season, furnish a luscious dessert for the table ; then comes peas, separate plantings, that gave of this delectable dish a supply for three months ; and best of all, green corn, the first planted in April, the last in August, ripening from July to November, and giving a larger amount of palatable and wholesome food than can be produced in the same area, whatever other crop is planted.

Morning Glories.

A floral contributor to the *N. E. Farmer*, says, she put some morning glories on the east side of her house last spring, and from nine vines, obtained seventeen hundred and fifty blossoms.

Currant Worms.

As usual, these pests have reappeared this spring in many places, but mostly in the Northern and Middle States. One cultivator says, “he tried whale oil soap, but the worms grew fat upon it ; tobacco soap rather subdued them ; strong soap-suds were only a grateful shower, and water made strong and dark with droppings from the hen roost had much more effect upon the user than upon the worm.”

The editor of the *N. E. Farmer*, says, “white hellebore” proved the most effective of all methods he tried, still there are some objections to it. In the first place, it is a poisonous article, and in careless hands might be the means of much suffering,

or prove fatal to human life. In a small way, in private gardens, its cost might not prove burdensome, but where currants are raised for market, it would be objectionable. Again, it is a slow, disagreeable, and tedious task, to apply it to the bushes so as to prevent the ravages of the worms. The fly comes from the ground and deposits its eggs on the under sides of the leaves, and at first usually on that part of the foliage near the ground. If the hellebore is sifted on the foliage it must pass down into the centre of the bush quite freely, and cover most of the leaves, or the worms will continue their work. We made careful use of it last year, and found it efficacious in some degree, but not a certain preventive. Carefully searching for the leaves containing eggs or worms, picking them into boxes and crushing them under feet, accomplished more than anything else resorted to. But that process was tiresome, and to some is a disgusting one, and unless the bushes were quite vigorous, the leaves could not well be spared. Carbolic acid in solution was tried, but did not prove satisfactory. That is also poisonous, and therefore a dangerous article to have about.

The *carbolate of lime* is another article used to destroy the currant worm. It is in the form of a fine flour, has a disagreeable odor, and we should think would be quite objectionable if any portion of it should touch the fruit. Dr. E. Worcester, of Waltham, Mass., informed the editor of the *Boston Journal of Chemistry*, that "he tried this powder in many instances last summer, and found that while it was fully as effectual as hellebore, it was less disagreeable, less costly and perfectly safe. The method of using it is to sprinkle it over the vines as soon as the worm makes its appearance. One or two applications was found sufficient. Neither the foliage nor the fruit, he stated, was injured by the carbolate of lime."

In the *Religious Magazine* for March, 1871, the Rev. E. H. Sears, after relating several experiments to destroy the currant worm, which proved ineffectual, says:

"Soon after these disastrous experiments, I was on a visit to a friend who is an amateur gardener. I was surprised to find his currant bushes green and flourishing, and pretty well loaded with clusters; while looking over the fence into his neighbor's garden, the bushes were stripped entirely bare. 'How in the world did you save them?' was a very natural, and in my case a very eager inquiry. Take a pound of copperas and dissolve it in seven gallons of water, and sprinkle it over the bushes with a watering pot. My bushes were getting covered with the worm, but one application dosed him effectually. I advised my neighbor over the fence to do the same, but neighbor's wife objected, fearing the copperas would poison the currants, and so he sprinkled them with lime; and you see the result. My friend found a second application necessary a few weeks later when the pest re-appeared; and the result was a large and beautiful crop of ripe currants."

A Handsome Ornamental Tree. The *Abies Albertiana*.

THIS beautiful evergreen has not as yet been cultivated in this country, and we doubt whether it is even known upon the catalogues of our most extensive nurserymen. The plant is a native of Oregon and British Columbia, and was introduced into England by Jeffrey, who sent home some seeds while on his Oregon expedition, and from these, has been raised this fine specimen of a variety of the Hemlock spruce. It was at first called, *Jeffrey's Abies taxifolia*, then afterwards named by Gordon in his Pinetum, as the *Abies Mertensiana*. Murray, however, pronounced the two species entirely distinct in foliage, cones, and other particulars, and describes it as altogether a new variety, and gives to it the name of *Abies Albertia*, in honor of Prince Albert, and by this name it has since been known.

The accompanying illustration of a fine specimen was taken from a photograph of a tree growing on Mr. George Patton's property of the Cairnies, in Perthshire. This was raised from the first consignment of seeds received from Jeffrey, in 1851, and at the time of the sketch was eleven years of age, and fifteen feet high. The place where it was growing is on the southern slope of the Grampian hills, about ten miles west of Perth, and consequently in a much worse climate and more exposed district than will be found in three-fourths of the whole of Great Britain.

Another specimen, very beautiful, fourteen feet six inches high, is to be seen at Hafodums, the property of H. R. Sandbach, Esq.

Specimens of the cones and leaves of *Abies Mertensiana* and of the *Abies Albertiana*, are in the collection of the Royal Horticultural Society, London, England. Mr. Murray gives the following botanical description :

"A tree of 100 to 150 feet in height; branches, flexible and weeping; branchlets, slender, with a dirty, brown bark, pubescent; pulvini slightly angularly decurrent, thickened at apex, wholly, and pressed to the branchlet; phyllulae semi-orbicular; buds, small, surrounded at the base by pulvini, and enclosed by one row of about five scales; leaves, from three to seven lines long, perennial; subdistichous, petiolate, linear, somewhat pointed, entire, above glabrous and without stomata, below with a midrib, on each side of which, are about nine or ten irregular and inconspicuous rows of stomata; inflorescence, not observed; cones, fawn colored, about an inch in length, elongate-ovate with five rows of scales in the longitudinal spiral, amounting to about twenty-five scales in all; scales elongate, oblong, oval, about six or seven lines in length, and three and a half lines in breadth; coriaceous, somewhat glabrous, and substriated on the outside where exposed, tomentose inside, and where covered by the neighboring scales, stipitate, eared at the base on one side, rounded on the other; margins, slightly irregular; bracts linear, blunt at the point, with the margins entire, about three lines in length, and three-fourths of a line in breadth; seeds, small, inequilateral, easily separated from the wing, which is about three times the length of the seed, and one and a half times its breadth."



The Abies Albertiana.

Pruning Shrubby.

THERE is, perhaps, no subject in horticulture so little understood by amateurs as pruning. The gardener, when he prunes trees and shrubs, does it for the purpose of regulating the crop of fruit or flowers. Besides forming the shape of the subject he operates upon, he has learned to form a limb or branch where they are wanted; also to check the growth so that it will conform to whatever space it may be convenient to confine it. This the amateur may easily learn, if he will but try. Of course he will have to make himself perfectly familiar with the different varieties of shrubs, and their seasons of flowering and habits of growth. All shrubs do not grow alike, as, for instance, the Azaleas, Daphnes, Rhododendron and Peony, Moutan or Shubby Peony; these are slow growing shrubs, and seldom require any pruning, just sufficient to keep them in shape. If a person, ignorant of the characteristics of these plants, should undertake to prune them the same as we prune Altheas, why the natural consequence would be total loss of bloom. There are different opinions as to the proper time for pruning. It has been settled as a fixed fact that early in February or March is the best time; but facts are not always correct, although they are said to be stubborn things. Some varieties do not flower until late in the season, such as the Rose of Sharon and some of the Spireas. These may be pruned any time early in spring, as they produce their flowers on wood of the same season's growth, while the Spirea Prunifolia produces its beautiful wreaths of delicate white flowers on slender shoots of the last season's growth. If these shoots are pruned at the usual season, when all other pruning is done, the crop of flowers is diminished in proportion to the amount of wood taken away. This applies to most of the shrubs which bloom early, and particularly to the Syringa Persica, or Persian Lilacs; these produce their flowers on the extreme ends of the wood of the last year's growth. If these are cut off, the flowers are lost for that season. Our practice has been, of late years, to let all the early blooming shrubs flower, and immediately after to prune them; by adopting this course we have a full crop of flowers, and there is plenty of time to make flowering wood the balance of the season. Some varieties of shrubs are very straggling in their habits of growth, as the Forsythia, Cydonia, Japonica and Philadelphus Inodorus—these require very close pruning to keep them in proper shape. The double flowering Almond is another of the shrubs that ought never to be pruned until it is done blooming. Pruning for modifying the form of the shrub embraces the management of the plant from the first year of its growth. If it is attended to at this period, it is a very simple matter to have beautifully shaped plants. For small grounds, shrubs are more suitable than trees, on account of the beauty of their different colored flowers and the ease with which they may be kept within bounds. As an article for hedges, to divide different portions of the garden, we would recommend the Cydonia Japonica, Wigelia and Spirea Reevesii. Deutzia Scabra grows quite high, and makes a capital hedge. They are easily kept in shape by the judicious use of the pruning shears.

THOMAS CAVANAGH.

The Cynthiana Grape.

GEORGE HUSMANN, of Hermann, Mo., in his Grape Notes in his journal, *The Grape Culturist*, stated recently that the Cynthiana Grape gives "the best red wine yet produced on the American Continent." An opinion of such unqualified praise deserves more than usual notice; hence we reproduce here his more extended remarks, lately written in *The Prairie Farmer*:

"There are so few American wine grapes that are wholly free from objections of some kind, that we naturally prize very highly one having so many excellencies as this one possesses. The following, written more than two years ago, are equally applicable now that this grape has been much more widely tested, and we venture a reprint, particularly as many of our present readers have probably never seen the number containing the illustration and description of this very valuable grape.

"Received by us in 1868, from Wm. R. Prince, Flushing, Long Island, N. Y., Origin, Arkansas, where it was probably found growing wild. It is a true *Aestivalis* in all its habits, and resembles Norton's Virginia so closely that it is nearly impossible to distinguish the wood or leaf, although the bunch is generally somewhat more shouldered, and the berry more juicy and somewhat sweeter.

"Bunch of medium size, moderately compact and shouldered. Berry below medium, round and black, with blue bloom; sweet, spicy, moderately juicy. Juice very dark red. Weighs very heavy on the must scale, even higher than Norton's Virginia, and makes, so far, our best red wine. It has as much body, or even more, than Norton's Virginia, but is of exquisite flavor, being much more delicate than Norton's and can safely enter the lists with the choicest Burgundy wines.

"Vine, vigorous, healthy and productive, as sure in its crops of well ripened fruit here as any variety we know, but very difficult to propagate. Since it bore its first crop in 1859, we have never seen a rotten berry on it.

"The fruit ripens a few days earlier than Norton's and about a week earlier than Catawba. Specific gravity of must, from 98 degrees to 180, according to the season.

"While we can confidently recommend the *true* Cynthiana as the best for *red wine* which we have tried, we must, at the same time, caution the public against spurious vines which have been sent out under that name. A variety resembling the Clinton, but not as good, has been sent out under that name from Illinois by unscrupulous parties, and another variety closely resembling it in wood and foliage, from Hermann, by parties who honestly thought they had the *true* Cynthiana.

"This latter spurious variety we have not yet been able to identify. It makes a darker wine than Norton's, of a peculiar flavor, resembling parched coffee, which may be useful for medical purposes, but does not resemble the exquisite wine of the *true* Cynthiana in the least. The close resemblance of the Cynthiana to the Norton, and also to this spurious variety, will make it very easy for unscrupulous parties to deceive their customers; and as we introduced it here, and look upon it, so far, as our best and most reliable grape for red wine, we consider it our duty to warn the public against these deceptions."

Letter from Shirley Hibberd.

STOKE NEWINGTON, LONDON, ENG., Jan. 6, 1871.

Editor HORTICULTURIST: Dear friend, permit me to make an experiment in order to ascertain if a subject which is of the most common-place order in this country has any interest for your readers. It will depend very much on my mode of submitting it to their attention; but, of necessity, a bad advocate of a good cause ought to make something of it, and I shall first endeavor, while I have an hour to spare, to say something of a great social institution which I believe to be peculiar to this country, but for its intrinsic merit, worthy of attention, however, men do congregate, and the domestic arts are encouraged for the edification and solace of the industrial throng. Pardon me if I assume, for mere whim's sake, that you know nothing practically of our autumnal exhibitions of chrysanthemums. In a most striking manner do they represent the inner life of our crowded cities. I cannot go through one of these exhibitions without indulging in meditation on the initial impulses of races, for in these displays I seem to find an expression of that earnest love of nature which has made our language rich and our race strong, and our influence universal. Love of the country is certainly not peculiar to the Anglo-Saxon, but it is an abiding passion of his, and if he must be shut up in a great town to guide a steam engine instead of a plough he will have a garden, and some time in the autumn a contest in chrysanthemums. In all our great towns this noble flower is cultivated with greater devotion than any other flower, and yet, strange to say, it cannot be properly described as pre-eminent in popularity, for I think the pelargoniums and the rose fairly share with it the proofs of future esteem. I know not how to communicate to your readers the exact position of the chrysanthemum in our gardens except by saying that although it is not the most important subject that claims our attention in the development of floriculture, yet it is, *par excellence*, the people's flower. But we shall get at the case presently perhaps. In the first place, then, let it be understood that in great and grand gardens the chrysanthemum is scarcely known. This is strange, but true. Now it is known in connection with the fashionable promenade or place of great public resort, as witness, that the Royal Horticulture Society and the Crystal Palace have made many attempts to establish chrysanthemum exhibitions, and have signally failed from first to last. Our wealthy amateurs delight in orchids, palms, ferns and hard-wooded plants, but, as a rule, they despise the chrysanthemum. Our humblest amateurs grow pinks, picotees, pansies and auriculas, but have only a small regard for the chrysanthemum, because to enjoy it in this country it must be flowered under glass, and that doubtless is the sole impediment to its adoption by workingmen as one of their best floral pets. You will begin to ask how it can be a "people's flower." Well, it is so in this sense, that it is equal in favor with the geraniums with our middle class folks in all great towns. It is, I may say, a tradesman's flower, and those who really take an interest in its cultivation throw so much heart into the pastime that they render this autumnal flower representative of great social necessities, and the deep, underlying characteristics of the Teutonic blood which yet flows in the veins of Englishmen. For full twenty years past I have attended in the course of every November some twenty to thirty exhibitions of this

flower, duty sometimes calling me, and at other times mere curiosity and the love of the thing, and the desire to shake hands with friends at a season of holiday. It has been my privilege to see the institution developed from small beginnings to its present splendor and completeness; and when I contrast what I saw in St. George's Hall, Liverpool, on the 22d of November last, with the modest displays in my own village twenty years ago, the contrast astonishes me, for it is as if a flea should grow to an elephant in the course of an hour before one's eyes, as may have happened to many a one in a dream.

Let us go back to the beginning, in order to claim for this rural suburb of Stoke Newington whatever renown it should have as the home of the first chrysanthemum society. Picture, if you can, one of our own old-fashioned wayside hostclries, and call it the "Rochester Castle." Go back five and twenty years, and picture the low-roofed parlor wherein every evening a number of the better class of tradesman and small gentlemen of the village enveloped themselves and each other in clouds of tobacco smoke, and while stirring their toddy discussed the politics of the day and the latest scandal of the district, and the personal predelictions of the most prominent members of "the parlor." There you shall see a big handsome man, of generous, rosy face, and the complexion and expression of true Anglo; or if not that, at least as fine a typical Englishman as a searcher after ethnological types could desire. That is Robert James, the landlord of the "Rochester," a first rate host, an enthusiastic and able florist; a man of broad sympathies and healthy tastes. The chrysanthemum has become a pet of his, and he has formed a collection of some five and twenty sorts. The talk of the parlor turns upon floriculture quite according to custom, and an exhibition of chrysanthemums is determined on, and Robert James takes the lead as treasurer and advocate; and, of all the workers in the movement, best of all lays claim by his activities to be forever after known as the Father of the first Chrysanthemum Society. Thenceforward, for full ten years, Stoke Newington stands almost alone in its public vindication of the flower, and the annual exhibitions of the society create a local stir and exercise a little influence beyond, through the reports that appear in the public prints. Almost as if by magic, there is an outbreak of chrysanthemum societies in London; and in the month of November the exhibitions constitute an important subject of conversation, and if the weather happens to be favorable when the shows are held, they are visited by thousands of people, to whom just then any kind of daylight entertainment is a perfect godsend, for the public gardens have ceased to attract, and the general scheme of public amusements is somehow out of joint, and this very entertainment is the thing the middle classes want to drive dull care away. Did I say "daylight?" By all that's true and good I had nearly forgotten them. During November we rarely have any daylight, and by a peculiar and blessed dispensation, for which God be praised, a good show of chrysanthemums presents a magnificent appearance under gaslight, and at all our London exhibitions there is more money taken and consequently more company present at a show during one hour after 6 P. M., than during all the previous hours of the same day. At the present time there are in London no less than twenty societies formed and maintained expressly for the representation of the

chrysanthemum, and many of those who love the flower put business aside when the season of display recurs, and go from show to show and from garden to garden inspecting, criticising, joking, and winding up with a "bit of dinner" at the house of one of the fancy, or at some hostelry, such as the Rochester, where chrysanthemum growers are wont to congregate. It would follow as a matter of course, that many English towns would be stimulated by the example of the metropolis, and consequently the queen of the autumn has received formal homage in every one of our great trading centers, so that it may with truth be said that chrysanthemum societies abound in the land. In two of their number the institution has attained to an extensive development. Bristol is great in chrysanthemums, but Liverpool is greater. In fact our great Lancashire trading port has outstripped the Metropolis in the production of one annual exhibition, which in artistic finish and splendor, in completeness and extent, far surpasses any one of the London shows, but then Liverpool customary has but one exhibition and London has twenty.

It is necessary now to refer to one who in his day exercised an enormous influence in the popularizing of this flower, not simply as a cultivator and an artist, but as a true philanthropist, who never wearied in the noble endeavor to win the working classes from a love of debasing pleasures to pursuits that ennoble and domesticate and cheer the heart of man. Dear old Samuel Broome! Please God, I shall never forget him. For four and thirty years he occupied the post of head gardener to the honorable society of the Inner Temple, and exerted himself far beyond the ordinary obligations of his office in making the great city garden of the temple lawyers a place of renown in the annals of English horticulture. He, too, was a typical Anglo, but not so fine a man in physique as James. He had but one arm, but he had two good eyes and a pair of rosy cheeks and a merry pair of twinkling eyes and a perpetually pleased expression of homely content. He was a persistent button-holder. Let him get hold of you and your day was gone. He was one of the homespun sort, rich in anecdote, heavily charged with experiences of man and things, a keen observer, and a rustic wit withal. Dear old Broome, the grave has but lately closed over his remains, but his works do follow him. Some fifteen years ago, when voyaging up the river Thames, Broome saw in the gardens of Messrs. Colville, an unwonted display of flowers, on a bleak November day. His curiosity was aroused, and he began to inquire. The result was a grand fit of chrysanthemum fever, which lasted to the day of his death, but never hurt him.

He took to growing the chrysanthemum, of course, and established in the temple gardens an annual exhibition, free to all comers, enjoying from the first the liberal support of his employees in this ministration to public enjoyment. The temple gardens have probably contributed much more toward the present popularity of the chrysanthemum than the competitive exhibitions; or if not, they have at least contributed largely, and Broome was perpetually going about stirring up the people, making curious homely speeches in school rooms, and taking plants and flowers with him to show the folks how they should be grown. At the risk of being prolix, I must here say that there are in London two haunts of lawyers known as "Temples," and in the garden of the middle temple Mr. Dale has, for many years past, provided

a public display of quite a different character to that of Broome. The last-named veteran had a long order, filled with the finest show varieties, all correctly labeled and covered in, when in flower, with canvass sides and a glass roof. But Mr. Dale treated the plant as a strictly out-door or parterre subject, and won golden opinions by his gigantic masses of pompones and his great sweeping orders of large and small varieties mixed indiscriminately and allowed to weather all storms, so that in the event of an early frost his display might collapse at the instant of expected triumph; but in a genial season it outshone Broome's by its vastness and splendor and that peculiar charm which all flowers have when displayed in the open air with surroundings of green turf and trees still leafy, though deeply tinged with their autumnal colors. Friend Dale is hale, and tall and strong; may heaven preserve him to us long. We used to meet as three to judge at shows here, there, everywhere; now we meet as two, and the tears tremble in our eyes as we shake hands in the exhibition tent, for we cannot do so without missing one of the most genial florists and generous hearted of men.

The annual displays in the Temple Gardens have exercised enormous influence in extending the sphere of the cultivation of the chrysanthemum. The London exhibitions, by societies, have done their part. The best house displays are in the gardens of thriving tradesmen, who grow collections and contribute to the exhibitions as competitors. It would not be fair to you to give particulars of these private collections, because this story must have an end, but I should do wrong to history were I to omit mention of two special exhibitions of a semi-public nature which have co-operated with others in fostering and improving the taste for this flower. In the very early days of chrysanthemum growing, Mr. John Salter, of Hammersmith, devoted himself to the raising of new varieties as a trade enterprise. When he began there might have been five and twenty sorts in cultivation, mostly importations from China. When he left off in 1869, there must have been—how many? I do not know, for I write this in a place far removed from my books and cannot refer to his catalogue for data. But I know that before I broke up my collection I had about three hundred varieties, and since then about fifty, mostly of the Japanese tasseled class, have been introduced. Mr. Salter appropriated every year a great old lean to conservatory to a display of chrysanthemums, which was visited by hundreds of people, and constituted, during the three or four weeks when the flowers were in their prime, a rendezvous for the florists, not of London only, but of all parts, for amateurs would come from far north and far south, hundreds of miles, to see the flowers.

The Salters, father and son, were men of rare, good taste, immense experience and extensive knowledge, and had the best collection ever formed near London, of interesting, hardy plants of all kinds, more especially pyrethrums, pentstemons, phloxes, peonies, saxifragas and succulents, and their "winter garden," in which the chrysanthemums formed the principal feature, was always enriched with groups of curious and beautiful plants of whatever kind happened to be in presentable condition in the month of November. It was in this winter garden that Dahlia Imperialis first presented its flowers in this country, and from the same place went

forth every season to the world at large, a batch of new chrysanthemums, nine-tenths of all we now possess having been raised or purchased for sale in the first instance, from the raisers, by the Salters. A railway company swallowed up the Hammer-smith nursery, and the Salters retired a year ago, greatly to the regret of the London florists, by whom they were beloved as men and greatly respected for their horticultural labors. The other exhibition deserving of mention in this connection is that of my friend Mr. Adam Forsyth of Stoke Newington, who holds his ground bravely, and is the first trade grower of the day. He, too, has sent out a number of valuable varieties, and may claim to rank with distinguished raisers; but I must reveal a psychological fact which these two exhibitions made manifest. *Fiat Justitia ruat, &c.* The Salters were *raisers* and nothing more; they never could, if judged from a high floricultural standard, grow a chrysanthemum. Perhaps they never tried. Certain it is that they never brought up their plants to sufficient perfection for a fair development and a splendid display, so that when visiting their exhibitions one could criticise with advantage the characteristics of the varieties, but they never did present their visitors with a single example of real specimen growing, and we had to go to public exhibitions to see the full capabilities of the flower. On the other hand Mr. Forsyth is a *cultivator* in the highest sense of the word, and a raiser, as it were, rather by accident than design. His display consists wholly of grand specimens; he furnishes the amateur with the model of a perfect plant; he trains and trims, and thins and coaxes, and at last puts upon the stage gigantic plants, evenly convex in outline like the crust of a pie, with the flowers as symmetrically disposed as if put on simply by hand, and averaging four to five feet in diameter. I do not pretend to know how you stand in reference to this flower, but I imagine that if we could carry over a few of such specimens as Forsyth makes every year, your amateurs would be (pardon the vulgarism) flabbergasted. Mr. Ball, of Chelsea, succeeds the Salters as a distributor of new varieties, but he makes no exhibition; and whenever Forsyth gives up (and may the day be distant), it is not likely he will have a proper successor, for the trade growers here fight shy of the flower, except as an article of sale, because of the immense amount of labor and the peculiar kind of skill required to do it well enough to make an exhibition. But the amateurs kept it going, and the societies never flag but increase in number and strength every year, and the peculiar adaptability of the plant to middle class gardens will insure its continued and ever-extending popularity for many a year to come. Perhaps if you sink the old ship on account of *Alabama* claims, we shall forget our flowers in trying to save ourselves amid the wreck, but not until some catastrophe strikes at the very foundation of our social joys shall we cease to dote on this grand autumnal flower.

During the earlier years of the exhibitions they consisted of chrysanthemums only. Nothing else was admitted on any pretense whatever. To whisper of expansion was to incur the risk of excommunication from the charmed circle. Yet whispers arose, and in spite of the men of one idea, the thin edge of a new wedge was deftly driven in, and fruits and ferns were mingled with the flowers. A sort of small war was carried on for ten years, but the war is over, peace reigns, and at nearly all the shows miscellaneous products are admitted to increase the attraction

and the instruction, though, of course, the chrysanthemum is always the *piece de resistance*. Strange to say, Stoke Newington, which laid the first stone, was about the last to submit to the crowning of the edifice. But this hyperborean region of England's metropolis has put the lands of the Medes and Persians under foot, and in the beautiful assembly rooms where the shows are now held, fruits make a prominent feature, and a few ornamental plants of the palmy and ferny kinds, with elegant odds and ends, are admitted. The best exhibition in the metropolis is that held at Brixton, where fruits and fine foliage plants are quarterly presented. The best exhibition in all England is that held in St. George's Hall, Liverpool, where, in November last, there were upwards of three hundred grand specimen plants, five hundred dishes of fruits, and many hundred miscellaneous subjects, such as poinsettias, primulas, orchids, ferns and berry-bearing shrubs. One exhibition in London made a profound impression on the public mind. It was that held in the Guildhall of the city in aid of a charitable fund, in the year 1865. It was a grand affair. The emblems of medieval life brought the grim past face to face with the blooming present with its life and bustle, and Godfrey's Coldstream Band dinned the ears of Gog and Magog, while thousands gazed in admiration and wonder on the hundreds of magnificent specimen chrysanthemums and cut flowers that overspread the hall and made as rich a feast of flowers as the most abandoned poet could hope for after proving the futility of trusting to fancy instead of appealing to fact. Shall we ever forget it? I mean "we" of the fancy? No! The tree ferns or pedestals that lined the hall on each side were worth a thousand pounds. The chrysanthemums were startling in their perfections, even to those who understood them best. Yet there was not one penny offered for prizes; it was all done for love and honor and duty, and all the profits went in a glorious lump to the charity in behalf of which the affair was undertaken. The growers of chrysanthemums are mostly Angles—men of fair complexion and sanguine temperament, and nor yet dare we change the spelling to make angels of them. But they are good enough for this world according to my way of thinking.

Now let me reveal another psychological curiosity. It is a big task to grow this flower as we see it grown, more especially in London, Liverpool and Bristol. Hence few professional gardeners can afford the time required to do it justice; hence also, perhaps, the reason why we rarely see it in the gardens of the wealthy, or even in our first class nurseries, except as an article of sale and not as a subject of display. I have taken careful note of this fact, that no man, however devoted, can keep a top place in the exhibitions for more than seven years on an average. Every season young stars arise in the firmament, and every season old stars go down. To bring the plants up to exhibition pitch, however able, according to the high standard that prevails, requires daily devotion the whole year round, but from May to August the tax on one's time is enormous. Upon an average, seven years is as much as a man's brains and fingers can endure of this work. So at least it appears, for the names of winning exhibitors come into these ports as new, shine for a few years and then pass away; and so on, and so on, like the revolution of the constellations in the zodiac, but with this difference, that the old names are replaced by new ones; no

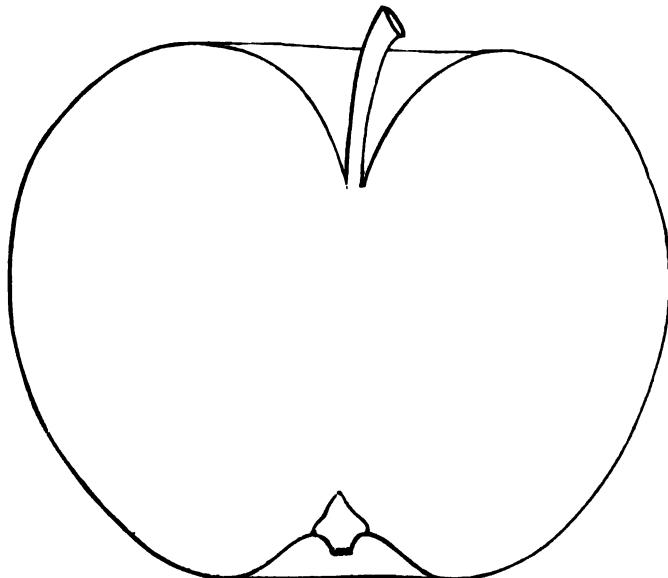
man gets up out of his grave to begin the battle again and win afresh the conquests of his youth. After about seven years a competitor before the public appears to have had enough of it, but he may still plod on at home and enjoy his flowers as household pets as long as God spares his hands to train them and eyesight to behold them, and his mind to appreciate the beauteous boon of this floral glory of the autumn.

SHIRLEY HIBBERD.

Rochester Pippin.

BY CHARLES DOWNING.

AT the winter meeting of the New York State Horticultural Society in January last, there was a plate of seedling apples presented and raised by Jacob Moore, of Rochester, N. Y., who said it was a hybrid between Golden Russet of N. Y. and Northern Spy, yet it does not seem to partake of either of its parents in appearance, but it has the juice and lively refreshing flavor of the Northern Spy. The brittle crispiness of the flesh, its juice and fresh, brisk, rich flavor reminds one of the old Green Newtown Pippin, as we had it a half century since, and to my taste is the best new apple I have seen in a long time. I know nothing of the habits of the tree, but if it proves hardy, healthy, vigorous and productive, and the fruit fair and handsome as the specimens presented, it will be a great acquisition to the amateur, and also as a market variety for winter use.



Fruit rather large, roundish oblate, nearly regular; skin smooth, pale greenish yellow, shaded with light brownish red in the sun, and sprinkled with a few greenish dots; stalk short and small, inserted in a large smooth cavity, a little greenish; calyx closed; basin medium or rather large, regular; flesh whitish, fine grained, crisp, tender, very juicy, with a refreshing vineous flavor, slightly aromatic and rich; core small.

How to Market Pears.

In looking through the columns of your beautiful monthly, I have been very much interested in the different articles on the culture of the Pear, and I also learn that you, with a number of gentlemen, are growing this fruit largely in the State of Delaware; consequently, in a few years, there will be a large quantity of this fruit to market. And, as many of those growers are without experience in this line, I thought a few suggestions in regard to packages, etc., might not be uninteresting to them.

The present mode of the Delaware growers is to make use of the peach crate and baskets, and, I will admit that they are very *convenient*, but, among the poorest, consequently, the dearest packages that can be made use of.

The crate is one of the worst packages ever made use of, for they expose the fruit to all changes; bruises them by coming in contact with the slats, and exposes every defect that the fruit possesses, and in addition to this, will not aid the fruit in coloring.

Baskets are worse than the crate, for in handling they become bruised, and, when exposed for sale, are open to the handling of every customer, who often find it impossible to resist the temptation to try the quality of a fine ripe one. And even frequent handling will soon spoil any choice variety; and where the fruit is so exposed, the dealer cannot prevent it.

Where persons have but a few pears to market, and are compelled to make use of the basket, I would suggest to them, that they fill it rounding full, cover with paper, then take a little fine hay, which, place upon the top, then draw the cover down tight over all and secure it by sewing with a coarse twine. The hay will prove a good protector in case the basket is upset or is handled carelessly; and it will also assist the fruit to color.

In the first place, the pear is a very delicate, tender and valuable fruit, provided it is placed in market, sound, perfect in form, bright and beautiful; and in order to do that—admitting it is sound and perfect—it must be handled with the greatest care, and kept from too much exposure to the atmosphere; for there is no fruit in this country so sensitive to changes in the air as the pear, and just here is where the difficulty lies in marketing this fruit.

Therefore, every grower should provide for his use a sufficient number of new half-barrels to market his entire crop; for they are considered the best package for this fruit, and are used by the largest and most successful growers in this State. Should those which have once been used be procured, the greatest care should be used in the removal of all dust, or any foreign substance that has a tendency to injure the fruit.

These packages can be ventilated, to suit the judgment or taste of the grower by boring a sufficient number of holes in them. The number of holes necessary should be governed by the ripeness of the fruit, and the heat of the weather.

It may be that the fruit is so green and hard that the owner may desire to hasten the ripening process; in that case, it may be prudent not to ventilate at all.

The half-barrel has this advantage: that the grower can control the ripening of

his fruit, better than in any other package. And, the real *beauty* of the fruit, after the size and perfection is considered, is produced by this sweating process, which produces a clearness of the skin which makes them so desirable for first class customers, and consequently enhances their value.

In addition to this, when carefully packed they will bear transportation as well as any other mode, and the dealer is enabled to handle them to a better advantage.

In order to pack in the most approved mode, take out the end you design for the bottom; begin packing by placing the fruit in rows around the bottom, standing it on the blossom end. Be careful that this tier is packed tight with a good average quality of fruit; when completed reverse the order for the next layer, chambering the stems so as to make all tight; then continue to fill in irregularly, until the package is full; then, on the top place a few imperfect ones that may be bruised with impunity, pressing the head down on them hard enough to hold the entire contents of the package so tight that none of it will move. Nail this head strong, and on the other head place the variety, with your initials and the consignee's address, so it may be opened in order to show the fruit to a good advantage.

Almost any one can succeed, after a few efforts, in becoming a good packer, and I would advise young beginners to open the head a few times so they can see the result of their labors, and

“ If at first, they don't succeed,
Try, try again : ”

until they do, for good packing is very necessary to realize good prices.

In handling this fruit, always avoid breaking the stems, for they add to the beauty and value of it.

There is another very essential point to be observed in packing, and this is, to have all the fruit in one package as near one degree of ripeness as possible; then part of it will not perish before the other ripens. The grower must also take in consideration, the time it takes to get his fruit to market.

In regard to sorting of qualities of the fruit, I should be governed by the character of it. If the general quality is even in size and of a fair average quality, I would reject the culls and make but one quality of the remainder; but should a great difference exist, I would make three. And be careful to mark the package showing the quality of the contents, so there may be no mistake made in selling. And in the invoice that you send, state the number of packages, and the contents. It is a very neat plan for growers to procure stencil plates to mark their packages with.

The pear growers of the Eastern States make use of a tight box with holes in the opposite sides large enough for handles; the fruit is carefully wrapped in paper, doubtless, for the purpose of safe carriage—to aid the sweating process and hide the imperfection of the fruit.

This fruit is seldom sent to our market until the fruit from the central part of the State has been disposed of and the weather is cool. How it would answer for the hot months, I cannot say; but, I think this is a much better package than the crate or basket. And when the growers cannot procure the half-barrels, I would advise them to try these boxes.

C. W. IDELL.

Profits of Small Fruits.

An Essay delivered before the Annual Meeting of the Pennsylvania Fruit Growers' Society, at Chambersburg, Jan. 18th, 1861.

BY WM. PARRY, OF CINNAMINSON, N. J.

(Continued.)

RASPBERRIES.

THE raspberry, coming next to the strawberry, is a fruit of great excellence, usually sells higher than strawberries, and is really worth more to the consumers. The fruit is heavier, richer, and will go further as a dessert. There is no waste of time and labor in preparing them for use, as the hulls are left on the bushes when picking the berries.

Our markets have not generally been well supplied with raspberries, owing to the difficulty in getting hardy varieties that would stand our changing climate; most of those that succeeded well in more northern latitudes, and were highly recommended for general cultivation, would not carry their foliage through our warm summers; and the canes would be injured before the approach of winter; and whether protected or not, they were of but little worth in the spring.

An erroneous impression has to some extent prevailed, that raspberries which are called tender at the North, may do well at the South, without protection. But raspberries do better in a cool climate, and many that succeed at the North are of no value at the South.

Although some few native kinds, distinguished by their color as Red, White and Black, have been grown time out of mind, it is but recently that much attention has been given to growing improved varieties.

Imported Raspberries.

For many years strong efforts were made to introduce the fine English and French varieties, and to grow seedlings from them, thinking they would be more easily acclimated—but with no better results than have followed the foreign gooseberries and grapes that have been tried in open field culture. At this time there is no foreign variety worth growing in the open field, that is generally adapted to our soil and climate.

The *Hornet* and *Antwerp* are berries of superior excellence; and it is to be regretted that the locations in which they succeed are so very limited. But when all the surrounding circumstances of soil, climate and treatment are exactly congenial, they yield large crops of the finest fruit, which commands the highest price in market.

A fruit grower in Camden, N. J., about three years since had one-eighth of an acre, mostly of the *Hornet* raspberry, which produced three hundred and thirty-six quarts, sold at ninety cents per quart, yielding at the rate of two thousand and four hundred dollars per acre. The following year the crop was all taken by one dealer, at seventy cents per quart. Last year, when I was there to examine the plantation, which is much larger now, so that they were picking about one hundred quarts daily, the owner informed me that the same person had engaged the crop again at sixty cents per quart for the season. That is the only instance in my knowledge of perfect

success with the Hornet. Other plantations near by made from the same stock, are all failures.

Native Raspberries.

Owing to the great difficulty attending the cultivation of foreign varieties as a field crop for market, the attention of fruit growers has been turned to the improvement of our hardy, native raspberries, of which there are two distinct species: the Rubus Occidentalis, which is propagated by the top end of the canes bending over and striking root in the ground, forming a new plant, which in turn sends out shoots reaching still further from the original stock, and thus in a migratory manner soon spreads over a considerable space of land.

The Purple Cane and Ellisdale are of this order, and the Catawissa to some extent; the White, Yellow or Golden Cap, Golden Thornless, and Cream raspberries, also the different varieties of the Black Caps, such as the Doolittle, Miami, McCormic or Mammoth Cluster, Davison's Thornless, Seneca, Garden, Great Western, Hamilton, Yosemite, Ohio, Canada, and Lum's Everbearing, and many others of less value.

I have not met with an English variety grown from tips, nor a black raspberry grown from suckers.

Best Blackcaps.

The Doolittle and Mammoth Cluster are the most profitable black raspberries with which I am acquainted. The former is early, firm, and carries well to market; the latter is larger and later. Both are strong, vigorous growers, hardy and very productive. Having thirty acres of them growing, I have found them to pay well, producing more bushels per acre than corn, with less care and culture—and after being once planted will continue for seven or eight years, yielding annual crops without renewing.

Red Varieties.

The other species to which allusion was made is the Rubus Strigosus, an upright grower, which is increased by suckers from the roots and by planting root cuttings, but not from the tips. Our native Red raspberries are all of this class, and seem quite local in their habits. Many of the finest will only succeed in certain sections where the climate and soil are just suited to their wants. It is sometimes hard to account for the conflicting reports made in reference to the same raspberry from different sections of our country.

The Allen, a beautiful and delicious Red raspberry, yields good crops in some locations, and from its fine appearance and excellent qualities, always commands a high price; yet in other places it would not produce fruit enough to pay for the ground occupied.

The Kirtland, a bright red raspberry, firm, early and very desirable for market, is highly spoken of in Northern Ohio, but with me it is worthless; having tried it on a variety of soil, from that which is moist and sandy to a rich clay loam, but in all cases the greater part of the leaves would fall off before the end of summer; the canes would be injured before winter, and they would produce but little fruit the next year. The Franconia, Naomi, Clarke, Wauregan, Elm City, Prosser, Red Queen, Duhring, Lindsley's Fastolff Seedling, Downing, Linton, and all of Dr.

Brinckle's choice Seedlings, the celebrated Orange Cushing, Col. Wilder, Cope, Vice President French, Walker, Woodward, and others were affected in the same way. Also, the Hornet, Antwerps, Fastolff, Knevett's Giant, Northumberland, Fill-Basket, Rivers' Large Fruited Monthly, Thunderer, and all other foreign varieties that I have tried, excepting the Belle d'Fontenay, and that is not of much value.

Ever-blooming Roses.

COLMAN'S *Rural World* says, that many persons are disappointed because their roses do not bloom constantly all summer, expecting from their title of Perpetual that they should do so.

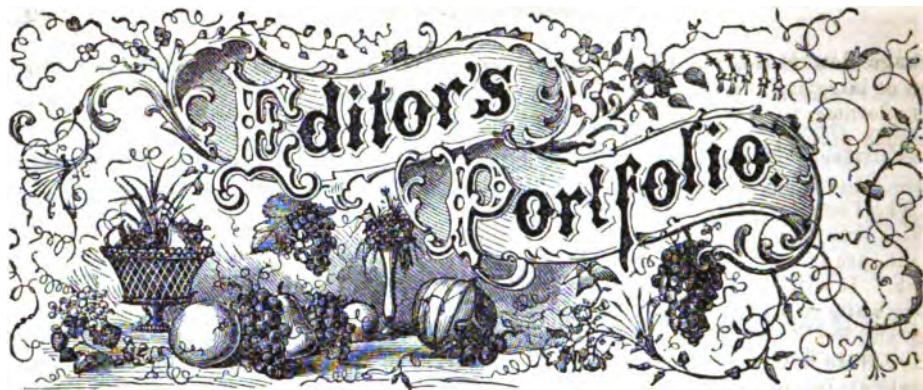
Now the class of roses, called Hybrid Perpetual or Remontante, is not exactly rightly named—that is, they do not bloom perpetually, but only at intervals. They bloom full in June, and then give a few scattering blooms along during the summer, and a good display again in September, doing better or worse, according as they are illly or liberally treated. This class, however, possesses the most brilliant colors, largest sized flowers, and fullest and finest shapes, and is deservedly very popular. But the true and real ever-blooming roses belong to those classes usually called tender roses—the Bengal or China, Tea, Bourbon and Nosiette; these, though more tender, and less robust than the other classes, are not absolutely tender, but, in our latitude, by selecting the hardier varieties, may easily be preserved through the winters by necessary protection.

The simplest and surest method of protecting these classes of roses, is to peg them close to the surface of the ground, then cover with a few inches of coarse litter. Strawy stable manure is best in our opinion. Throw on a little soil to keep it in place, and do not fail to cover the crown of the plant. Even if such manure is drawn up around their stems six or nine inches high, the roots and lower branches are saved; and if the tops get killed, they can be cut down, and they will bloom as freely as though all the top had been saved. This latter plan can only be adopted where the plants stand closely together in beds, which indeed is the most effective way to grow these as well as the Remontante roses. Beds should be prepared exclusively for their benefit, and if the soil is a clay loam, well rotted manure may be added, and the beds spaded deeply, raising the surface of the bed a few inches above the natural level of the ground.

The plants of these dwarf growing varieties may be distributed about three feet apart over the beds, and a vigorous growth should be kept up by clean culture, stirring the soil often, top-dressing and digging in annually.

The following would comprise a dozen good varieties for such a bed; some one would choose other varieties, doubtless, but these are believed to be as good as any:

Hermosa, pink; Duchess de Thuringe, waxy, clear white; Cels, creamy white; Gloire de Dijon, blush and yellow; Eugene Beauharnais, deep crimson; Madame Breon, very crimson; Bougere, bronzed rose; Amie Vibert, pure white; Daily Pink, a profuse bloomer; Agrippina, rich velvety crimson; Triomphe de Luxembourg, salmon buff; Saffrano, fawn color shaded rose,



Editorial Notes.

Cranberries on Upland.

Three or four years ago I transplanted cranberry vines from my meadow to one of my gardens, which is pine plain land. They have grown well, and they are now loaded with fruit. I had compromised with them ; that if they would come and live with me on my land, I would bring them their native soil, so that they would not suffer by emigration. I dug channels two feet wide, twenty inches deep, and three feet apart. I removed the gravel, and filled the channels with *muck* from whence they were to be taken. I took up the cranberry plants in small clusters, and set them deep in their natural element. They appeared to be perfectly contented with their new locality. They now occupy one square rod of ground, and they are beginning to enlarge their borders. I keep this patch clear of weeds. The expense of this cranberry square rod was about two days labor of one man, and one days labor of one horse. The prospect now is that the cranberries will yearly pay expenses of their new settlement. Muck and experiments well directed will prove successful.
Journal of Agriculture.

Where do our Flowers come from ?

Some of our flowers came from lands of perpetual summer, some from countries all ice and snow, some from islands in the ocean. Three of our sweetest exotics came originally from Peru ; the Camellia was carried to England in 1739 ; and a few years afterwards the heliotrope and mignonette. Several others came from the Cape of Good Hope ; a very large calla was found in ditches there, and some of the most brilliant geraniums, or pelargoniums, which are a spurious geranium. The verbena grows wild in Brazil ; the marigold is an African flower, and a great number from China and Japan. The little daphne was carried to England by Captain Ross, from almost the farthest land he visited toward the North Pole. Some of these are quite changed in form by cultivation ; others have become larger and brighter ; while others despite all the care of the florists and the shelter of hot houses, fall far short of the beauty and fragrance of the tropics.

Among improved ones is the dahlia. When brought to Europe it was a very simple blossom, a single circle of dark petals surrounding a mass of yellow ones. Others with scarlet and orange petals were soon after transplanted from Mexico, but still remained simple flowers. Long years of cultivation in rich soil, with other arts of the skillful florist, have changed it to what it now is—a round ball of beauty.

Orange Blossoms.

In this country orange flowers are worn by a bride on the occasion of her wedding, simply as a fragrant ornament to lend still further grace and beauty to the fair being who is about to give herself away for life. In the interior of France, however, these

orange flowers are worn as a testimonial of purity, not only of the bride herself, but of integrity and morality in the character of her relatives. In certain provinces its adornment is considered as a sacred right, obtained by undoubted character, and as such proudly maintained.

Plants for Window Gardens.

The *Country Gentleman* recommends the following: There are some few plants which will grow and blossom with but little care or attention—but with others constant care is needful. Among the former class, the Chinese Primrose takes front rank. It will continue in bloom from nine to ten months out of the twelve; and its pure white or rich pink and crimson flowers are a great ornament. So tenacious of life and health is the root, that if planted in cotton wool soaked with water, and not allowed to wither for want of moisture, it will put forth its tender blossoms for months. It can be thus planted in a china vase or saucer, or in a glass dish, making a lovely ornament for a parlor or boudoir table. The cost of it is small; a twenty-five cent scrip will procure a fine plant, and its flowers are a certainty.

The Czar violet blossoms all winter, and perfumes the air with its wondrous fragrance. The flower is single, its color of a light blue, but its sweetness is unsurpassed by its sister flowers.

The double English violets are of a deep rich purplish blue, and will bloom for several weeks in a shady situation.

Bouvardias adorn a window garden for many months with a quick succession of buds and flowers of a rich coral hue. Bouvardia elegans, a new variety, possesses larger flowers, of a trumpet shape, and ripe red hue. Ours is just bursting into bloom, and is very beautiful.

The begonias are also very desirable, as they push forth clusters of waxen petals during all the gloomy winter season. Their glossy foliage is handsome, and they are rarely troubled with the pest of insects, which are so pernicious to all window culture of plants.

Belgium daisies are very pretty dwarf plants, and additions to every collection.

The different varieties of cyclamens are particularly beautiful. The winged flowers hover like birds over the dark rich foliage of the plant.

All the above named plants will rarely fail to produce a good supply of flowers without much coaxing, and if we add a few of the variegated foliaged plants—some sweet geraniums and several varieties of the zonale tribe, they will form a very respectable window garden, and not only give great satisfaction to their owner, but attract the lingering gaze of every passer by, and give pleasant thoughts to a large number of people.

Gardening in North Carolina.

A correspondent of *Hearth and Home* states that the country near Wilmington, N. C., is becoming filled up with fine truck farms. One truck farm in particular is noticeable for its size.

Hogg, Cannon & Co., have 15 acres in asparagus; 25 in strawberries; 100 in peaches; 170 in pears; 180 in Concord grapes; 16 in Madeira; 16 in Clinton; 30 in Hartford; 70 in Mist; and 35 in Scappernong. Another farm belonging to Messrs. Willard, has 40 acres in peas and cucumbers, and send forward 40 to 50 bushels per day. Another farm has 100 acres in peaches; 80 in grapes; 28 in strawberries; 10 in peas; besides a large area in peanuts, potatoes, &c. The general testimony is, that owing to sharp competitors from Norfolk, and the shortness of the picking season, the business is very risky and uncertain. The county is better suited to sweet potatoes, which can be grown with the greatest ease. The tomato does not do well as a market crop, neither grows as well as farther north; the intense heat seeming to interfere with successful transportation. The peach crop near Wilmington, is not considered certain, owing to some climatic cause. The Concord grape is

a general favorite. The Hartford Prolific does not bear the long railroad transportation. The Mist grape is a hybrid of the Scuppernong, and a bunch grape, has the hardiness of the former with vastly more saccharine matter. Its juice makes a heavy port, and it is thought that it will yet prove the great wine grape of the south; good wine has been made from it; also from the Concord and Scuppernong mixed together.

The truck farmers think that with all these risks, the business is still more profitable than cotton or corn; and with land at five to ten dollars per acre, it is very easy to make them pay their way. The great want now is good and regular water communication to New York.

Raspberries for the South.

"Woodman writes to *Hearth and Home* that the following are the favorite varieties: *Philadelphia, Mammoth Cluster, Red Antwerp, Purple Cane*—he rejects the Clarke entirely. Of the Mammoth Cluster he says: "It is the largest, sweetest and most abundant of its class; and as a canning fruit, is without a peer. In fact no one who has a cultivated taste for raspberry flavor can fail to discover the superiority of the black caps over all other kinds for canning."

Profits of Market Gardening.

Mr. J. J. H. Gregory delivered three lectures, recently, at Cornell University on "Market Gardening and Market Farming," in which we are glad to see he gave some common sense ideas about the cost and profit of gardening. The expense of raising an acre of cabbage, including manure, time, labor, &c., \$150; market value of the crop, \$300; gain, \$150. An acre of onions cost \$260; price \$500; gain, \$240. Squashes cost per acre, \$140; price \$180; gain, \$40. "Market farming must be carried on within twenty miles of the city. Ten acres is enough for a farm, five for a gardener. More is gained by cultivating one acre well, than two acres half as well. He must carry his own produce to market in his own wagon. The ground must be fairly stuffed with manure. Two crops must be cropped off the same ground year after year. Hot beds are absolutely necessary, and incessant care is unavoidable. It is a business that requires capital, energy and hard work, both early and late. Small gardeners will often make their land pay \$500 to \$1,000 per acre annual income; but the average farmer can hardly hope to get more than \$100 to \$150.

Useful Hints to Fruit Growers.

The following hints are given in the *Country Gentleman* by J. D. Jones, Jr.: 1. *To Prevent the Dropping off of Grapes.*—Make a circular incision in the wood, cutting away a ring of bark about the breadth of the twelfth of an inch. The wood acquires greater size about the incision, and the operation accelerates the maturity of the wood, and that of the fruit likewise. The incision should not be made too deep, and farther than the bark, as it will spoil both the wood and fruit.

2. *To Protect Grapes from Wasps.*—Plant near the grapes some yew trees, and the wasps will so far prefer the yew tree berries as wholly to neglect the grapes.

3. *To Preserve Plants from Frost.*—Before the plant has been exposed to the sun, or thawed, after a night's frost, sprinkle it well with spring water, in which sal-ammoniac or common salt has been infused.

4. *To Destroy Moss on Trees.*—Remove it with a hard scrubbing brush in February and March, and wash the trees with cow-dung, urine and soap-suds.

5. *To Prevent the Blight or Mildew from injuring Orchards.*—Rub tar well into the bark of the apple trees, about four or six inches wide, round each tree, and at about one foot from the ground. This effectually prevents blight, and abundant crops are the consequence.

EDITORIAL NOTE.—This tar remedy is good for borers, worms or insects around the trunk of the tree, but is not always a sure cure for the blight. No experienced

horticulturist can recommend one sure plan beyond that of repeatedly cutting back the parts affected by the blight. Root pruning is often successful.

Forcing Strawberries.

C., of Burlington, N. J., would like to know how to force strawberries under glass, and which berry answers best for this purpose? The management will vary much with circumstances, with the amount to be raised, and the degree of earliness desired. We shall describe briefly the simplest mode, where a small supply for a family is wanted. The plants should be potted soon after the out-door bearing season, or when the runners begin to form. One year plants are sometimes employed, but the best are those obtained by causing the new plants from the runners to form in the pot. Take small pots, fill them with a fine and rich compost, made of pulverized turf or leaf-mold with some sand as its nature may require, and fourth, of fine old manure, cow manure being best. The compost should have been previously worked over in a thorough manner. Sink these pots to their rims in or near the strawberry beds when runners are forming, so that the new plants may be made to root in the pot, nipping off the outer runner, and cutting off the inner when the roots are formed. Then place the pots on bricks where worms cannot enter from below. As the plants grow larger, remove them to larger pots, without breaking the ball of soil. Water enough to keep them in a good growing state. Before winter, remove to a warm, well lighted cellar, and water as sparingly as a proper condition of the plants will admit, so as to make a season of rest. If to be forced in a hot-bed, place them there as soon as it is ready for them; if in a green-house, it should be as low as may be, and the plants near the glass, where the warmer air rises. They should now be well watered, but not water-soaked. Do not water them while in bloom, when the anthers are bursting, and keep the temperature uniform. The crop should be thinned early, if it sets very thick. The flavor is always less high on forced plants, and the highest flavored sorts should therefore be selected.—*Country Gentleman.*

Experiments in the Destruction of the Oyster Shell Bark Louse.

In a communication from J. W. Robson to the Jo Davies County Horticultural Society, we find some unusually valuable ideas of what will and what will not destroy the oyster shell bark louse, which is such a pest upon our apple trees.

One day, he says, "while cleaning a white-fish barrel, we thought we would try fish brine. Having a young Rawle's Janet apple tree, close at hand, completely covered with lice, we began experimenting, taking a common wooden pail, and filling it with boiling water, dissolving therein one pint of brine. When sufficiently cool to handle, we syringed the infected tree, thoroughly drenching every branch and twig.

Early next spring, on close examination, we found every insect dead and the scale dry and shriveled up; placed under the lens of a powerful microscope, they presented the appearance of half burnt chips of wood. Other applications since then have proved quite successful.

Those who have made this insect a study, know that the young are hatched about the latter end of May, or first week in June, being earlier or later according as the season is earlier or later. Immediately on issuing from under the scale they commence their upward march toward the ends of the shoots, never making a retrograde movement unless in case of storms, when they face right about and seek the cover of the old scales. Their ability to move continues only for a few days, when they lose their legs and tails, assuming the scale-like form, and become a fixture on the shoots.

During the last week of May, 1868, the young brood began to move, and in greater numbers than in previous years, so numerous that the shoots appeared to the naked eye as if sprinkled with fine particles of corn meal. Anxious to try the fish-brine

cure, we syringed a large tree with two pailsful. It took two minutes by the watch. Result: every louse was killed, and so was every leaf and every green shoot and apple on the tree.

The second mixture tried was half a pint of common salt to a pail of water. Result: the insect lived, but leaves and shoots were destroyed.

The third and last mixture was a quarter of a pound of whale oil soap, dissolved in the same quantity of water. Time expended in syringing, two minutes. Result: death to the insect, health and vigor to the tree, and a handsome and abundant crop.

Before closing we will mention a fact which we noticed last year, which, perhaps, will be interesting to entomologists. While looking at the movements of the young lice through a powerful magnifying glass, we discovered a round shaped, black lady bug, with four distinct white spots on the back, feeding upon the young lice, completely cleaning the shoot as it went along. Farmers, spare every one of them, for they are our best friends.

Notes for Cottage Gardeners.

Verbenas.—The *Ruralist* says: "Towards the latter part of summer, if your plants show signs of giving out, give them a moderate pruning, and mulch them to the depth of two inches with spent hops. This mulching process will be very beneficial if commenced early in the season, especially when there is prospect of dry weather. In getting up a collection confine yourself to a limited number of varieties, let these be the very best. Ball of Fire, Pink Gem, Radiant, King of Whites, Venus, Gigantic Celestial Blue, Scarlet Circle, William Dean, Sunbeam and Saladesi, the latter really superb."

Lists of Roses.

The *Ruralist* also mentions the following:

Tea Roses—Gloire de Dijon, Sombreuil, Marshal Neil, Madame Brevay and Devonians.

Noisette Roses—America, Washington, Woodland, Marguerite, Pellenburg, perfectly hardy and profuse bloomers.

The *Remontante* or Hybrid Perpetual, are generally exceedingly hardy, many of them being first class bloomers although shy. Among the best of the well known older varieties, are the following: Victor Verdier, Maurice Bernardin, Count Cavon, Cardinal Patrojii, Gen. Washington, Madame Victo Verdier, Giant des Battailles, Madame Mason, Jules Margotten, Princess Mathilde, Leon Verges.

The Bourbon class is undoubtedly the best for small collections, as they are hardy, and, with few exceptions, are constant bloomers. The following are hard to excel: Hermosa, Omer Pasha, Souvenir, Malmaison, Imperatrices, Eugenie, Countess de Brabant, Mme Bosanquet and George Peabody.

Keeping Qualities of Grapes.

The *Fruit and Wine Reporter* says, there is a great difference in varieties for winter keeping. The very early sorts are, in general, poor keepers. Hartford and Adirondacs are examples of the earliest, and both are transient. The Delaware may be kept for a while with considerable ease, but it soon loses character. The Concord is, perhaps, the shortest lived of all. Its thin and tender skin will hardly suffice to carry it to market in presentable condition, and frequently cracks on the vines. A tough skin and bunches not too compact, are excellent qualifications. The Isabella is supposed to be a good keeper, but it too often loses its flavor after a few weeks, particularly if allowed to become dead ripe, as it did last fall. Wherever the Catawba perfects itself, it is a safe variety for winter keeping. The Iona is one of the best also. It retains its *spiritus vinus* flavor for a long time. The Isabella is said to keep well by those who have tested it.

Some of Rogers' Hybrids promise to be exceedingly valuable in this respect. No.

1 keeps well and seems to improve in quality. Some of the black varieties such as 4, 19 and 43, have succeeded well with me. Among the reds, No. 15 and Salem seem to equal or surpass all others. Salem is much the best quality; and to the majority who eat it, not surpassed by any other variety. Fruit of this, gathered in September, is still in perfect condition, and promises to continue throughout the winter.

Culture of the Camellia Japonica.

The Camellia is generally propagated by single cuttings, which, when two or three years old, are strong enough to be grafted or inarched with double varieties. Grafting or inarching is done in spring, before the plants commence growing. To insure success in growing good plants they should first be trained with a single stem and shortened back so as to make side shoots from the stem. Continue growing by keeping the leading shoot in advance of the others, so as to form a pyramidal shape. As they advance in growth shorten all straggling shoots which get beyond the proper limit. To encourage growth the plants ought to be put in a warm house where there is a little moisture. Old plants which are required to bloom early, should be treated in the same manner and kept in the house until they have set their buds. At all times they require a liberal supply of water, and should be shaded from the sun, as every cultivator well knows that the leaves of Camellias are more or less liable to be blotched and burned with the sun's rays if not protected. Camellias do not require heat after having set their buds, only sufficient to keep them from being injured by severe frost. It is not advisable at any time to go to extremes, but there are no plants in cultivation which sooner feel the effects of sudden extremes than Camellias advanced in bud. Excessive dry heat at night, or cold rushes of air during the day, will go hard with their constitutions, and cause them to drop their buds like hailstones.

There are, also, other kinds of extremes which are alike injurious to these plants, such as over-watering and under-watering, stoppage of drainage, over-potting and pot bound. The plants which have been over-watered should be turned out of the pot, all the sour soil removed from the ball without injuring the plants, re-potted and put into a close house until they commence growing again at the roots. Plants which have suffered through being under-watered, should be immersed in a pail of water until the roots and ball get a thorough soaking. Plants with the drainage stopped should also be taken out of the pot and re-potted in a well drained pot. Pot bound plants should have the ball reduced, if practicable, and re-potted in a pot a size larger. All plants of Cainellias should be potted after blooming, and immediately placed in a warm, moist house to make their growth, and syringed over with water in the evening. When old plants are potted in a good compost, they will not require re-potting for four or five years. Top-dressing or watering them occasionally with weak manure water, will be beneficial if the plants become infected with brown scale and are dirty. Sponge the leaves with soft soap and water. Thin off the buds when the size of a pea, where they are too numerous.—*J. E. Booth, in Farmer's Union.*

Summer Pruning.

If we desire to improve the *form* of a fruit tree and get rid of some of the superfluous wood, we should prune in winter; but if we desire *fruit* and a perfectly healed stump, we should prune from the fifteenth of June to the twentieth of July. We have done this often with the happiest results. The fruit-buds form after this, and the operation suddenly cutting off its growth, produces buds; while the winter or early spring pruning will produce only *wood*.

In pruning ornamental trees in midsummer, the bark, instead of receding from the stump, grows over it, and in a few years will completely cover it and make a perfect amputation.

This pruning is done when the tree is taking its midsummer *siesta*, and then wakes

up refreshed for another start, and the bark gradually steals over the stump as if ashamed of the shabby-looking exposure.

When the tree is in full leaf, and presents its full form to us, we can see exactly where the pruning should be done, in order that while the over-growth may be removed, the symmetry of the tree may be preserved. Especially is midsummer pruning to be preferred, first, to produce buds on fruit-bearing trees as before stated; and second, when large limbs are to be removed.—*Philadelphia Press.*

Dr. Ball, of Kansas, says that trees which expend all their forces in the production of wood can produce little or no fruit. Indeed, it is not possible for any tree to produce fruit germ, and not again in some way disorganize it, unless the wood growth shall cease in time for the leaves to elaborate food enough to grow both leaf and fruit the following year.

Strawberries--How many Quarts per Acre?

Few persons are aware of the immense yield of the Strawberry plant under high culture. We have frequent reports of crops ranging from 4,000 to 6,000 quarts per acre, and we are informed that a Mr. G. H. Baker, of Illinois, produced 200 bushels of Wilson's Albany Strawberry on one acre, giving him a clear profit of \$1,500. We read also in a northern magazine that Mr. Augustus Parker, of Grove Hill Avenue, Boston, picked 4,800 quart boxes of the same variety from one acre and a half of ground. We have no reason to call in question these and similar cases, but, at the same time, it should be understood that they are extreme cases, and not to be looked upon as a fair representation of the results generally attained. We quote them to show the possibilities of Strawberry culture under the most favorable conditions. We have not the slightest doubt but that 6,000 quarts have been produced in our own neighborhood—on Charleston Neck, for instance, but should consider half that quantity a very satisfactory crop, and feel sure that it can be easily attained with Wilson's Albany, and, perhaps, with other varieties.—*Rural Carolinan.*

EDITORIAL NOTE.—The average production of Strawberries per acre, in Delaware, Maryland and New Jersey, is but 1,500 quarts per acre. This is true of large plantations for market purposes; but where only a small piece of ground, one to two acres is planted, the yield is often doubled, because the land is better cared for, better tilled, and more amply manured. It is a good rule worth laying down in strawberry culture, that if all the manure and one-half the labor were concentrated upon half the space, the product would be doubled, and the expense of culture would be much less. It should be the desire of growers not to get more land, but to put more manure upon the land they already cultivate.

We doubt if 6,000 quarts, per acre, were ever obtained upon the same land two seasons in succession, or in average market plantations.

Quinces.

An Ohioan, who has three-fourths of an acre of quince orchard—from which last year he sold 300 bushels of first class fruit, spades the ground in spring and scatters a peck of coal ashes around each tree, also a quart of salt, and another quart when the quinces are half grown.

Topping Strawberries.

A Chicago editor has taken particular pains to learn from commission men the use of topping out berries, with the following results. It does not pay to put selected berries on top of each box. It does pay to turn the hull down so that the face of the top of the box presents an unbroken field of red. Leaves on the top of boxes are a positive detriment, they heat and rot the berry and do not help the sale. Everything that has a tendency to improve the attractiveness of the box, berries or crate, helps the sale.

Consolidation.

The *Western Pomologist* and the *Western Gardener* have been consolidated, the combined paper being published by Mark Miller, Des Moines, Iowa, with Dr. J. Stayman and Dr. Wm. M. Hously, both of Leavenworth, Kansas, as associate editors.

We are sorry to miss the face of the *Western Gardener*, as we had taken quite a liking to it; yet the *Western Pomologist* has so good a corps of contributors it will be a beneficial centering of horticultural interests.

The Gardener's Soliloquy.

To sow? or not to sow?—that is the question,
Whether 'tis nobler in the mind to suffer
The greatest torment of a gardener's life
In poring yearly through "fat catalogues,"
Or to take means by popping them, when sent,
Into the waste basket,—to be looked to
No more; and, by doing so, to say we end
The thirst for new and special novelties
That flesh is heir to. 'Tis a consummation
Devoutly to be wished. To grow? to sow?
To grow? perchance to cram our beds and borders
With useless rubbish—ay! there's the rub!
For to pick out the best of the trade lists,
Full of "ennobled roots," and "improved seeds"
Must give us pause. There's the respect
That raisers have for their own progeny;
For who would bear to look o'er all the lists
Now daily sent to gardeners and employers,
"Descriptive guides" "Vade mecum," "Little books,"
For teaching when to sow, transplant and reap,
When he himself might the commotion end
By never reading them? Who would yearly bear
To sow the good old seeds of former lists?
But that the thoughts of something after seed-time—
That the "ring-leaders," "gems," and "first crop" peas,
New brocolis, kales, French beans, and cauliflowers,
Might not turn out so profitable or early
As the well-tried old sorts, puzzles the will,
And makes us rather grow the seeds we have
Than order others that we know not of.

W T., in *Gardener's Weekly Magazine*.

Pears near Montreal.

In a report made to the Montreal Agricultural and Horticultural Society, by Mr. John Archbold, that gentleman states that the following varieties are the twelve best adapted to the climate of the Island of Montreal, viz.: Summer Doyenne, Dearborn's Seedling, Beurre Goubaud, as dwarfs; Bartlett and Bonchretien, either as dwarfs or standards; Flemish Beauty, as a standard only; White Doyenne, Glout Morceau, Belle Lucrative, and Kinsessing, as dwarfs; Oswego Beurre, as standard; Onondaga, as standard or dwarf; and Vicar of Winkfield, as dwarf. He adds that the Beurre d'Anjou is a very fine pear, but does not seem to be hardy on the quince stock.

Mr. James H. Springle reports the following summer varieties, viz.: Doyenne d'Ete or Summer Doyenne, Osband's Summer, and Tyson, as hardy and coming into bearing early, and recommends that they should be grown on the pear stock. As Autumn sorts, he names the St. Ghislain, Bourre d'Amalis, Belle Lucrative, Flemish Beauty, Louise Bonne de Jersey, White Doyenne, and Oswego Beurre; and says they are hardy, and the fruit of the finest quality. These French sorts seem better adapted to that climate than many of the finer American varieties, such as the Seckel, Kinsessing, Sheldon, etc. Of these, he says, the White Doyenne and

Louise Bonne de Jersey will do well on quince stocks. For winter sorts, Mr. Springle recommends the Lawrence and the Glout Morceau. He adds that he has fruited in his experimental garden, during the last twenty years, upwards of three hundred varieties of pears on both quince and pear stocks, and his experience has been that, with few exceptions, the quince stock in the climate of Montreal *will not* cause the tree to *bear fruit earlier* than those grafted on the pear stock; and that it is also a fact that many varieties of pears which do well on the quince stock elsewhere, make in that climate such a strong succulent growth that the wood never ripens, and is mostly killed the following winter. He also states that he could have given a longer list of varieties suitable for the climate, and also a number of seedlings of both apples and pears of great merit, but that he has confined his remarks to the twelve best sorts.

One Way to Grow Strawberries Successfully.

John Ford, a very successful strawberry grower of Detroit, Michigan, raises abundant crops for the Detroit market. He plants in drills or rows, three feet asunder; plants one foot asunder in the rows. He does not expect a crop the first season, but allows the young plants to take root and grow together in the rows, forming a mass of plants about a foot wide. The intervals between the rows are kept clean with the cultivator. He gets a splendid crop the second year, and when it is gathered the plants are turned down with the plow, and the ground prepared for some other kind of crop. He does not keep the strawberries in the same ground for more than two seasons.—*Western Rural.*

Close Pruning.

We find it to pay in our own orchard, and trim our pear bark yearly to a foot or less of the new growth.

Mr. Saunders, of the Department of Agriculture, Washington, who has hitherto not believed in pruning at all, now we hear has at last concluded to trim his trees more or less regularly.

The Flemish Beauty Pear.

This variety is now declared to be *the only* variety recommended for general trial and cultivation in Minnesota.

Dwarf Pears.

The *Germantown Telegraph* says "dwarf pears" are all at this day that we ever claimed for them, and we should not dream of possessing a *garden* without them. Where room is scarce we should grow dwarfs exclusively, and even where room is unlimited we should have *some* dwarfs. If any doubter could have visited our garden premises last autumn, he would have witnessed a pomological sight as to cause him to raise up his hands and eyes in wonder and apologize for his ignorance on the spot.

We may add, parenthetically, that we prune our dwarfs *excessively*, from compulsion, not choice.

The Curculio Mastered at Last.

The following is one of the most sensible plans of killing the Curculio that we have yet seen, even better than the jarring process in some respects, being much easier; still that should not be omitted. We quote from the *Ohio Farmer*:

"For many years past the Curculio has been an almost unconquerable enemy of the fruit grower, and not a few have cut down their plum trees as cumberers of the ground, not receiving any return from them. I have remaining a few nice trees, left standing for ornament and shade, and year after year these trees have bloomed and set full, but in spite of every effort, until the present season, not a quart of

fruit was received. While the trees were in full bloom last spring, my wife determined to try an experiment upon one of them, which she did, and it resulted more favorably than could have been expected.

Early every morning, while in full bloom, corn meal was strewn over the ground beneath the branches, and the whole flock from the poultry yard at once set to work to gather up the particles of grain. The ground was daily thoroughly scratched over, and meal, insects, and everything to the fowls edible gathered up. Later in the season a brood of chicks were cooped beneath the tree, and the operation of sowing meal still continued. This operation was not omitted for a day from the time of the putting forth of the trees until the plums were beyond the reach of the little pests.

Now, for the result: This tree, and this alone, was loaded with fruit, to the perfect amazement of all who saw it. It was literally covered with fruit, as perfect as could be desired. So heavily were the limbs laden that props had to be used all around the tree. I really believe there were more and better plums upon this single tree than all the township, and I am also disposed to say, all of the county.

Not a plum matured on any other tree on my premises, and all are of the same variety as the one saved.

I would earnestly urge a trial of this method by all who have fruit trees. It will certainly be continued by me, as I believe it to be a specific against the ravages of insects.

Cultivated Blueberries.

A correspondent of the *Farmers' Union*, Minn., says: "Some three years ago I set out a few blueberry bushes in my garden. They have brought forth fruit ever since, are exceedingly hardy and bid fair to be a success. Why not raise them in all the gardens? They were taken up and transplanted with the sod on their roots."

Belle de Fontenay Raspberry.

Dr. Hull says that he planted 500 plants of this variety in the spring, and they spread, by the next year, to 1,200; and gathered from them upwards of 1,200 quarts in one year, only about quarter of which were grown on the old canes at the usual raspberry season. The heaviest yield, on the new canes, was usually between the middle of August and the 10th of September. He thinks that ever bearing varieties will never become popular on account of the trouble to remove the sucker, and the necessity of stirring the soil weekly.

Fine Vegetables.

The *Prairie Farmer* says that for special excellence, the following are note worthy: *Bergen Cabbage*, the most tender and excellent of all. *Cook's Favorite Tomato*; *White Japan* and *Skillman Netted Melons*; *Black Spanish* and *Ice Cream Watermelons*.

Miller and Hayes' New Catalogue.

Mr. Ch. H. Miller, of Philadelphia, and Mr. C. P. Hayes, formerly connected with Henry A. Dreer, have formed a co-partnership for the purpose of devoting special time to landscape gardening, laying out of suburban places, flower gardens, &c., combining with it the business of florists and gardeners. Their new catalogue contains a large variety of ornamental plants and flowers. Address is 5,774 Germantown avenue.

Guano for Strawberries.

The *Observer* says: "Let the guano be put into an old barrel, with some stable manure, then add water sufficient to leach out the soluble elements of fertility, which should be applied with a watering-pot. It will produce an abundant crop of berries."

The Scarlet Bouvardia.

S. O. J., in answer to a question in the *New England Farmer*, about the successful cultivation of this Scarlet Bouvardia says: We have not always been successful in the culture of the Scarlet Bouvardia. It will not thrive in the dry, heated temperature of our common sitting rooms, but, like the verbena, requires a cool, moist atmosphere, and a rich, loamy soil with a mixture of sand, at least a quarter of the whole bulk of the soil. It is, also, like the verbena, subject to the ravages of the *aphis*, which injure its growth and beauty. This season we had procured a fine variety, the *Bouvardia Elegans*, which is a "novelty," and has much larger clusters of flowers, of a brighter and clearer shade, and far handsomer than the species usually grown. In December, it was growing beautifully, the sandy, rich loam, and the cooler situation, were doing their work, and it had four beautiful clusters of buds beginning to show their rich scarlet tint. But they were covered with green flies in all stages of life. Their presence was not to be endured—a warm water bath must be given them! So we prepared it, but the morning was chilly, our fingers were cold, and the result was, the bath was too warm for the health of the plant. All the green aphides were killed; so, also, were all the beautiful buds and leaves!

The plant still survives, and is now recovering from its hot bath. Not an *aphis* has dared to show its wings, and green leaves now promise a wealth of buds. We hope that "*Constant Reader*" will profit by our experience, and will give her plant a cool temperature, and a cool bath, and a rich, sandy home. If watered once a week with guano water, it will flourish more luxuriantly.



Editorial Notices.

Did our readers notice that our last number reached the good round figure of *Three Hundred*, and that we are now on the march with the first number of a new hundred? Amid so many failures and changes in horticultural journalism, it is gratifying to find *The Horticulturist* just as successful after twenty-five years of varied life, as it was when first started.

Forest Trees.

In answer to inquiries, we would say that Bryant's new book of "*Forest Trees for Shelter, Ornament and Profit*," will be issued from our office, and ready for sale, September first. We want agents everywhere in the West to canvass for it.

Change of Firm.

The firm of Henderson & Fleming has been dissolved, and a new one has been formed of Peter Henderson & Co., admitting as partners, his son, Alfred Henderson and William Carson. The new location is at 35 Courtlandt street, New York. The younger members of the firm start under excellent auspices, having so excellent and well known a pilot at their front as Peter Henderson. The new location is very convenient to visitors from New Jersey; and, in fact, easily reached from all parts of the city.

THE Horticulturist

EDITED BY

HENRY T. WILLIAMS.

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NO. 302.

A Chat about Small Fruits for 1871.

A N unusual number of new seedling varieties have been heralded forth this spring. Most of them seem to have come from the West, near Chicago. Two extraordinary varieties have attracted notice, being crosses between the Wilson and Russell's Prolific, and described as real acquisitions. Near this city, there have been shown some very fine new seedlings, but each lacking in some one or more particulars. But few of the varieties that attracted attention *last year*, seem to have been able to stand the test of criticisms *this year*, and have absented themselves from the exhibition boards. *The Champion*, a very fine new seedling, originated by Robert Turnbull, of New Rochelle, N. Y., was much the finest shown near the city. It was of extraordinary size, beauty of form, color and productiveness, but not considered of a quality, equal to a severe test running over a series of years. *The New Jersey* is one out of a very fine collection of about ten seedlings originated by E. W. Durand, Irvington, N. J. It is a fine flavored fruit; very dark red, more so than the Wilson, reasonably firm, and received a number of good prizes. *The Mrs. Grant* is a new seedling possessing a very high flavor, perhaps too pungent and spicy to suit some tastes; originated from the Lennig's white, but not equal to it. *The Late Prolific*, originated by Mr. Durand, exhibited last year, maintains its promise well, and bids fair to continue a good variety and popular with amateurs for several years, until something new and better takes its place.

We observe that nearly every new seedling never appears to as good advantage the *second* year as the first. And we must add, by way of caution to our readers, a hint, which might be considered almost a safe rule, "*that new varieties of berries do best in the locality where they originate, and are rarely as successful beyond it.*" Occasionally a particular variety leaps its local bounds and achieves a national reputation. On this point we commend the Chas. Downing, which is now consid-

ered one of our best family fruits, and included in every collection. The Strawberry Exhibitions in New York, yearly, of B. K. Bliss & Son, and in New Jersey, of the New Jersey State Agricultural society, as also the test grounds of Reisig and Hexamer, at Newcastle, N. Y., serve to keep us well informed of all new varieties and the yearly success of the old ones in this vicinity.

The strawberry season among growers for the New York market has been, this year, unexpectedly profitable to all Southern shippers from Delaware, Maryland and Virginia. The amount of fruit brought from the line of the Delaware Railroad this year is estimated, from railroad reports, at 3,000,000 quarts. Add to this fully 1,500,000 from Virginia, and about 2,000,000 quarts raised in New Jersey and neighborhood of New York, and we have not far from 6,500,000 quarts of strawberries raised for market this spring, near this city. Uniform prices have been obtained by the Delaware and Virginia growers, ranging from 20 to 50 cents per quart. The profits to the Virginia grower will average \$500 per acre; to the Delaware grower, \$200 to \$300. Most of the berries in New Jersey were a failure, owing to late frosts, and those that came from the Hudson River and Connecticut realized 12 to 20 cents per quart. The success of this year is doubtless exceptional. The shipping season was excellent—absolutely no rains—and the short crops of middle and lower Jersey, has given a buoyant tendency to Southern fruit, such as it has never experienced for five years past. As Delaware growers are all enlarging their beds and engaging in the business more largely than ever, we fear that they too may overdo the business just as their New Jersey neighbors have done, and create a glut among their own fruits. If our fruit-growers and railroad companies will strive to keep up admirable shipping and freighting facilities, an immense quantity of fruit can be safely disposed of in the market. Most of the growers have suffered once or twice every week from the late arrival of trains. The market system is now so systematically arranged in this city, that unless fruit is promptly on hand between 4 and 5 A. M. the groceryman goes home without purchasing any, and when the train arrives at 6 A. M. the commission-man is overwhelmed with fruit, but his purchasers are gone, and his only resort is to the peddlers, who are ready to buy at a sacrifice. An hour's difference in the arrival of a fruit train is sufficient to cause a decline in price of five to ten cents per quart upon all the fruit it carries. Upon one train which was carried over the Delaware Railroad this spring there were stored 256,000 quarts. This train arrived late; part of the fruit could not be sold, and that which could be sold had to go at a sacrifice of five cents per quart. The total loss to the growers by the late arrival of that train, *one hour*, was between \$10,000 and \$20,000. Had it been one hour earlier, it would have been entirely saved. We mention this single instance to show the extreme risks of marketing perishable fruit, and the necessity of reform in freight trains.

In the old standard varieties of strawberries to be recommended, either for market or family use, we find a more than usual adherence to the Wilson. Growers have at last become satisfied that it is time and money thrown away to try to displace it. The market buyer prefers it to anything else, except fancy Triomphe and Jucunda, and the universal cry now is nothing but Wilson. The Barnes Mammoth has received

a fair trial this year, and the verdict is, "the Wilson in preference." The Barnes is a large, handsome, firm berry, but loses its shining bright color when it arrives in market, and besides yielding only two-thirds the quantity of the Wilson, does not seem to bring an extra price.

The Romeyne Seedling is universally conceded to be nothing but the Triomphe de Gand.

Peak's Emperor.—Same as *Agriculturist*; we cannot observe any difference this year.

Napoleon 3d..—More magnificent than ever; must be grown on very heavy land, cool, and be mulched, and it will produce the finest flavored berries that ever gladdened the sight of an amateur.

Boyden's No. 30..—Has now been well tried near the city and met with uniform favor; is a very fine, large fruit, of agreeable taste and very productive; seems to do well on any soil.

Chas. Downing.—One of our standard sorts, valuable for every family garden; will do well on light land as well as heavy, but needs manure for producing the big berries.

Russell's Prolific.—Is rising in public estimation; more calls for it than usual have been noticed this year; universally productive; good flavor, pistillate; needs another variety close by to fertilize it.

President Wilder, equal in flavor to all that has been said of it; not productive here; but does better the second year than the first in new beds.

Lennig's White.—The Queen of all strawberries; its spicy, delicious flavor is unequalled among all fruits we have ever seen.

Golden Queen.—Handsome, showy, soft, productive; good only for near market.

Jucunda—the most profitable strawberry ever grown.—Rarely ever sells for less than 50 cents per quart; needs heavy shaly clay; will carry 500 miles uninjured; about as productive as the *Triomphe de Gand*.

Green Prolific.—Very vigorous, productive, and a good, sure family variety.

French.—One of our favorite varieties; early, good bearer, excellent flavor, large size, moderately firm; best of the very early kinds.

Louis Vilmorin.—A new foreign variety; small fruit; poor grower.

Scott Seedling.—Very poor flavor; berries small; pointed; only few to the plant.

Ida.—Small; sour; very productive.

Colfax.—Capital for plowing under as a green manure.

Harrison.—Very productive; medium sized fruit; as vigorous as the *Green Prolific*.

Great Eastern.—Very productive, but fruit stalks are not firm, and fruit lies on the ground.

Turner's Beauty.—Very remarkable healthy foliage; large berry; fair flavor; not firm enough for market.

Turner's Favorite.—Excellent flavor, but small berry; not a good grower.

Turner's Nonesuch.—Better flavor than the *Beauty*; hardy; prolific; berry like the *Lady Finger*.

Turner's Prolific.—Excellent, productive, good flavor; but the fruit hangs too low on the ground.

Hartford.—Too small; does not amount to much.

Early May.—Very early; even ahead of the Downer's Prolific; not very productive; berries medium size.

In Raspberries there is little new or noticeable. The Black Caps have succeeded indifferently in New York this season. It seems impossible to introduce them. It is a pity, as they are among the most useful and enjoyable of all the small fruits.

The Westchester Black Cap is but one or two days ahead of the Doolittle, and no more productive, but is of much better flavor.

The Mammoth Cluster is universally acknowledged to be the most productive and profitable of all the Black Caps.

The Davidson Thornless is the earliest; sweet and productive.

The Seneca—large, late, sweet; best family variety.

Red Raspberries, owing to the difficulty of growing them successfully on warm, early soils, are raised principally along the Hudson River, where they are very abundant and profitable.

Blackberries attract little attention; only one variety now takes the lead—the *Wilson Early*. While any of this is in market it is impossible to sell any other variety. The Dorchester, when grown on light land, is too small and unprofitable for a market variety, yet it is much the best flavored. When will purchasers be willing to consider flavor equivalent to size and showiness?

Kittatinny.—Very productive; berries large, juicy, delicious; loses its color in marketing; is the least attractive and most unprofitable of all as a market fruit; excellent for family, but cannot be recommended for profit for this market.

Lawton.—Next to Wilson in profit; sells well, and is as remunerative as ever. When well ripened is delicious, but too often is picked before ripe. Is one of the kind that is not ripe when it begins to turn black. Its reputation in the market is so fixed that it cannot be displaced yet, unless the Wilson is more generally grown.

Success in Small Fruits.

We know of no branch of rural industry which requires so much capital and outlay for its space as the cultivation of strawberries, and we know of no business so risky or fruit so perishable. Still it is our first fruit of the season, is in great demand and is very popular. Strawberry culture is yet unsettled. Most of those who failed, did so because they did not have capital enough, or were not able to *hang on*. We believe that where expenses are light and shipping facilities good, and plants reasonably well cultivated, that an average profit of \$100 to \$200 per acre can be realized regularly every year. Our shipments this year average about \$200 per acre net over all expenses; still fully \$250 worth of spoiled fruit occurred during the season. To make small fruits really successful in the highest degree, the grower must have capital, own his land entirely free from debt, support his own family, cows, horses, etc., on his land, spend no money off the place for manures, but make it all at home, and have a variety of fruits ripening from the earliest down to

the latest of the season, so that the expenses of the farm may be divided equally among all, and not concentrated on one thing. Those who have been most successful in small fruits have been so situated that they could sell *plants* as well as the fruit, thus realizing double profit from the same area. An intelligent idea of the market is necessary to a successful fruit-grower, otherwise he cannot cater acceptably to the buying public. Growers often are misled by supposing that any thing is good and profitable which will *grow well and produce abundantly*, but they forget that, after all, they are not the judges, for it is the market buyers who determine what to buy and what to discard. This instance is well exemplified in the Kittatinny blackberry: growers like to cultivate it, for it is very productive, but the market men decline to touch it, for they buy only from *looks*, color and size, and hence discard it altogether, in favor of the Wilson and Lawton. A good knowledge of the fruit market is indispensable to success in fruit culture.

Pleasant Thoughts.

Mrs. Malaprop's Love of the Country.

MRS. M—— has been visiting for a few days in the country, and writes a friend that it is looking very beautiful. Spring flowers are springing up in the most luxurious confusion. Bandyions are abundant in the meadows at the back, and her front garden is full of scarlet *agapeneones*.

The Language of Flowers.

We often hear of the "pink of propriety," Can we not with equal propriety speak of the "lie-lack of truth"? Is holly-hock to be added to our list of wines? How will the disturbed state of the Continent affect the coming-up of single and double stocks? Is it likely to interfere with the dividend on the Ten Weeks Stocks? The emblem of Ireland is a Sham-roock; a pink would be more appropriate for a carnation.

FUN.

Put Flowers on Your Table.

Set flowers on your table—a whole nosegay if you can get it, or but two or three, or a single flower, a rose, a pink, nay, even a daisy. Bring a few daisies and buttercups from your last field work, and keep them alive in a little water; aye, preserve but a bunch of clover, or a handful of flowering grass, one of the most elegant as well as cheap of nature's productions, and you have something on your table that reminds you of the beauties of God's creation, and gives you a link with the poets and sages that have done it most honor. Put but a rose, or a lily, or a violet on your table, and you and Lord Bacon have a custom in common: for that great and wise man was in the habit of having flowers in season set upon his table morning, we believe, noon and night—that is to say, at all his meals, for dinner in his time was taken at noon; and why should he not have flowers at all his meals, seeing that they were growing all day? Now, here is a fashion that shall last you forever, if you please, never changing with silks, and velvets and silver forks, nor dependent upon caprice, or some fine gentleman or lady who have nothing but caprice and changes to

give them importance and a sensation. Flowers on the morning table are especially suitable to the time. They look like the happy wakening of the creation ; they bring the perfumes of the breath of nature into your room ; they seem the representative and embodiment of the very smiles of your home, the graces of its good-morrow ; proofs that some intellectual beauties are in ourselves, or those about us. Some Aurora (if we are so lucky as to have such a companion), helping to strew our life with sweets, or in ourselves some masculine wilderness not unworthy to possess such a companion or unlikely to gain her.

LEIGH HUNT.

The Wild Flowers.

Ye field flowers ! the gardens eclipse you, 'tis true,
Yet wildlings of nature, I dote upon you,
 For ye waft me to summers of old,
When the earth beamed around me with fairy delight,
And when daisies and buttercups gladdened my sight,
 Like treasures of silver and gold.

E'en now what affections the violet awakes !
What loved little islands, twice seen in the lakes,
 Can the wild water lily restore !
What landscape I read in the primrose's looks,
And what pictures of pebbled and minnowy brooks
 In the vetches that tangled the shore.

The Amaranth.

The beauty of this robust growing flower is due to its ornamental variegated leaves. An ancient floral writer "Miller," says, "There is no handsomer plant than this in full lustre." Gerarde, another of the very old garden loving fraternity, thus refers to it in his quaint old Anglo Saxon tongue :

" It farre exceedeth my skill to describe the beauty and excellencie of this rare plant called *Floramor*, and I think the pensil of the most curious painter will be at a stay when he shall come to set it downe in his lively colours. Everie leafe resembleth in colour the most faire and beautifull feather of a Parrot, especially those feathers that are mixed with most sundry colours, as a stripe of red and a line of yellow, a dash of white and a rib of green colour, which I cannot with words set forth. Such are the sundry mixture of colours that Nature hath bestowed in her greatest jolitie upon this flowre."

The Moss Rose.

The Moss Rose is familiar to every one as a most beautiful plant ; flowers possessing a deep color, fragrant, and with a rich mossy appearance. The origin of its mossy vest has been explained to us by a German writer :

" The angel of the flowers one day,
Beneath a rose tree sleeping lay ;
That spirit to whose charge is given
To bathe young buds in dews from heaven ;

Awaking from his light repose,
The angel whispered to the rose :
‘ O, fondest object of my care,
Still fairest found where all are fair,
For the sweet shade thou’st given to me
Ask what thou wilt, ’tis granted thee.’
‘ Then,’ said the rose with deepened glow,
‘ On me another grace bestow.’
The spirit paused in silent thought ;
What grace was there that flowers had not !
‘ Twas but a moment ;—o’er the rose
A veil of moss the angel throws ;
And, robed in nature’s simplest weed,
Could there a flower that rose exceed ? ”

Hybrid Fruits.

BY JACOB MOORE, ROCHESTER, N. Y.

IN the February number of the *Gardener’s Monthly*, the editor acknowledges the receipt of some abnormal fruit, supposed by the raiser to be the product of a cross between the apple and pear. As the ideas advanced in the editor’s comments, and the several communications of Chas. Arnold, of Paris, C. W. and the raiser of the fruit, published therewith, are directly contrary to my experience in hybridization, I am induced to reply to them. The fruit is stated by the raiser (Dr. J. Lawrence, Paris, C. W.), to have been upon the branch of a pear tree among those of a R. I. Greening apple tree. Another person was present when he picked the fruit, and separating the branches of the apple and the pear, both of them ascertained beyond a doubt that it was borne by the pear tree. Mr. Arnold, with certain other horticultrists, examined and tested the fruit, and states as follows concerning it : “ All parties present were of opinion that the fruit much more resembled apples than pears, both in flavor and appearance. Some fancied they could perceive quite a pear flavor, but all were unanimously of opinion that there was no trace of R. I. Greenings in the flavor.” The latter part of this statement contradicts the former, for does it not say that “ some fancied they could perceive quite a pear flavor ” ? Hence, it appears that all parties present were *not* of the opinion (*or fancy*) that the fruit much more resembled apples than pears, *both* in flavor and appearance. But it is stated that “ all were unanimously of opinion that there was no trace of R. I. Greenings in the flavor.” We are therefore led to infer that the flavor, in the opinion of a portion of the judges, was like that of *an apple*, though not of the R. I. Greening, the variety supposed to be hybridized with the pear. The comments of the editor of the G. M. upon the fruit, are as follows : “ There is no mistake here, for on opening the specimen sent, the seeds furnished undisputed evidence that the fruit is *a pear*, and not an apple. Then the insertion of the stem is not the insertion of

an apple. In the apple we know that the stem gradually fits in the cavity, until it is tightly clasped—that is, the basin is funnel shaped, the funnel scarcely having any outlet at the point as one would say,—but in this specimen the basin is rather bell shaped, just as one could imagine it would be if a pear had its stem *pushed in*, the pulp and skin going with it. In the seed and the stem-cavity or basin, there is not the slightest relationship to the apple. The curious part of the affair is, that the pulp is undoubtedly that of an apple. The apples were rotten when they got here; we could not judge of the perfect flesh; but there is one character by which the decayed pulp of an apple can always be distinguished from that of a pear:—*Apple pulp is fibrous—pear pulp is granulated.* We carefully mashed this pulp; there was not the slightest trace of the gritty masses which characterize pear pulp. It was apple pulp most undoubtedly."

The editor bases his conclusion solely upon the character of the pulp; but as this was rotten, according to his statement, it certainly could not afford a fair opportunity of analysis for the purpose of deciding the question at issue. He says that the seeds of the fruit were like those of a pear, and not of an apple. How then could the pulp be that of an apple when the seeds, which, as he well knows, are the direct receptacles of the pollen, were not those of an apple? That the fruit was borne by a pear tree may be conceded, but that it was the product of pear blossoms fertilized by apple pollen, I consider extremely doubtful. It is my experience that pear blossoms will not take the apple pollen. I am not prepared to say at present that the two species cannot be crossed, for the reason that I have not made a sufficient number of trials to determine this question. But even allowing that they can be crossed, and in this instance that they were crossed, this would affect neither the color, shape, texture, or flavor of the fruit in the slightest perceptible degree. Experience renders me positive on this point. I have crossed the Concord, Hartford, Black Fox, and other native grapes, with the Muscats, Hamburghs and others of the finest foreign grapes, and have never been able to detect the slightest approach to the foreign varieties used, either in the shape, color, flavor, texture of the fruit, or the formation of the seed. The fruit would have precisely the appearance and flavor of that of the same variety not crossed, and the seed would likewise have the same shape and appearance. Such is my experience, also, with crosses between varieties and species of the apple, pear, and other fruits. The seedlings from the crossed seeds, however, have testified as to their origin very plainly. It is my belief that the internal structure of the germ of the seed alone, is changed by the action of pollen of another variety or species. Sometimes occasional specimens of fruit may have the appearance of being crossed with another sort or species, but it does not follow that such is the case. Such specimens are merely natural variations, and may be borne by a variety entirely removed from every other. Mr. Arnold, in his communication says, "We all know that if we plant a few grains of dark purple corn, and near by we plant white sweet corn, that we will find in the fall both varieties of corn in the same ear." I differ with him entirely. I don't know any such thing. In fact, I am confident they will show no mixture whatever the first year, provided they have previously been kept distinct and pure.

It is true they will cross the first year, but it will not become apparent until the second year, when the product of the crossed seed is obtained. Doubtless there are few among horticulturists who will assent to this statement; I am convinced of its truth, nevertheless. Corn, as is well known, is fertilized by the pollen dropping from the tassel upon the silk, descending through it to the point of the seed in the cob, and there entering into the composition of the germ of the seed, popularly termed the chit. A cross or mixture of two varieties is effected, simply, by the pollen of one variety acting upon the seed of the other, precisely as its own pollen does. It is a mistake to suppose that the pollen of the one changes the main body of the seed of the other into that of the variety to which the pollen belongs, or into something appearing to be a medium or cross between the two sorts. Such an effect is impossible, according to my judgment and experience. The mixture will not become apparent until the seed so fertilized is planted, as before stated. Several farmers of my acquaintance, who hold the popular belief on this subject, have acknowledged to me that they have planted seed of a variety of corn which to all appearance was perfectly distinct and pure, in a situation far removed from all other varieties, and where it could not mix with any other, and yet the crop was badly mixed with another sort. This could not have been the case without this apparently pure seed had been mixed in the germ the year before, by the variety showing itself in the crop. The popular belief, also, respecting the mixture of different kinds of vegetables, is erroneous. For instance it is generally supposed that squashes and pumpkins will, the first year they are planted adjacent, show the mixture in the product of each kind. Yet I know this idea to be a myth. The said squashes and pumpkins will, the first season they are so planted, show no mixture whatever, provided they have previously been kept distinct. It is their *seed* which will produce the mixture.

In conclusion, I would like to hear from other hybridists on this subject. Doubtless many persons besides myself would be interested to learn the opinions of M. P. Wilder, E. S. Rogers, S. W. Underhill, and others. I am specially curious to know if they think that pear blossoms could develop into "apple pulp," in consequence of their fertilization by apple pollen.

Potting Strawberry Plants.

ABOUT the first to twentieth of June the runners of the strawberry will be in a good condition to pot. One who has never tried this best of all plans to get thrifty plants for a new bed, would be astonished at the excellent success which would attend his efforts in this direction. Plants propagated in this way can be put out at any time during August or the three succeeding months, or can be left in the bed until the following spring, and turned out in a well prepared plat, and bear quite a nice little crop of excellent berries the same spring. I confess to being an enthusiast on this mode of producing strawberry plants, but the marvelous success which has always attended my efforts, created that enthusiasm. It is nice, light, delicate work, and affords the amateur cultivator a most delightful recreation from the office, work-

shop or counting room. Any pottery will sell you small, two-inch pots for about a cent each, and these will last for many years, with only a small per cent of breakage. Get as many of them as you desire, and procure a lot of fine leaf mould or other light, rich material, fill the pots even full, and after the runners throw out plants, plunge your pot in the bed at a point convenient to a runner, lay it on and place a small stone or clod on it to keep it in place. In a few weeks the pot will be a net work of roots, and a fine plant will be in it. The straw which connects the plant in the pot with the parent plant must not be cut until you are ready to set out your plant, unless you design keeping them over until spring; in which event you should sever all of them after active growth has ceased. When you get ready to transplant, turn the pot upside down, and give the bottom a strong tap or two with your hand, and the plant, earth and all, will come out in a moulded form, precisely the shape and size of the pot. Now make a hole with your garden trowel the size of your pot, set it in, pour a tea cup of water around it, and draw dry dirt up, being careful to have your plant no deeper than it grew in the pot. No shading will be required—your plants will not wilt; and if you do this work in the fall, no weeds will be in your bed. Place straw an inch or two deep between rows and plants, and your work is done for that year, and until after fruiting the next. You will get at least a third of a crop of nice fruit the first season after planting thus, without any work. The following year, keep off all runners, and keep the ground well stirred. If you desire to have ripe fruit a few weeks in advance of the general season, put your potted plants, about the middle of August, into six-inch pots (transplanting them from the small ones) and before cold weather sets in place them in a green-house, conservatory or pit, for winter protection, and about the first of February following, make a good hot-bed two and a-half feet deep, placing six inches of soft, light earth on top of the fresh manure, and in this plunge your pots to the rim, in rows about a foot apart each way, and cover over with glazed sash, putting matting or old carpets over the glass in very cold weather and at night, and give air and tepid water occasionally on warm days. You can then eat strawberries a month or more in advance of the usual time.

Stanford, Ky.

WOODMAN.

Designs of Rural Art.

FIG. 1 is a sketch of a Rustic Summer House, simple, and easily constructed. The attractiveness of it is enhanced greatly by the climbing vines, which are supposed to be planted freely at each end. If evergreens are planted close by, they will add greatly to the picturesqueness of the position and form an excellent contrast.

Fig. 2 is an out-door covered seat. The upright posts are each six inches square, and set in the ground. The roof is of boards with battened joints, set off with an ornamented ridge-board and balls. The seat is made of hard wood, rounding on top, and placed a little apart.

The effect can be changed by substituting rough cedar, unbarked, posts for the square ones. A Wistaria vine planted at one end and allowed to grow over the roof and hang down its clusters of drooping leaves and flowers, will add very much to its beauty.

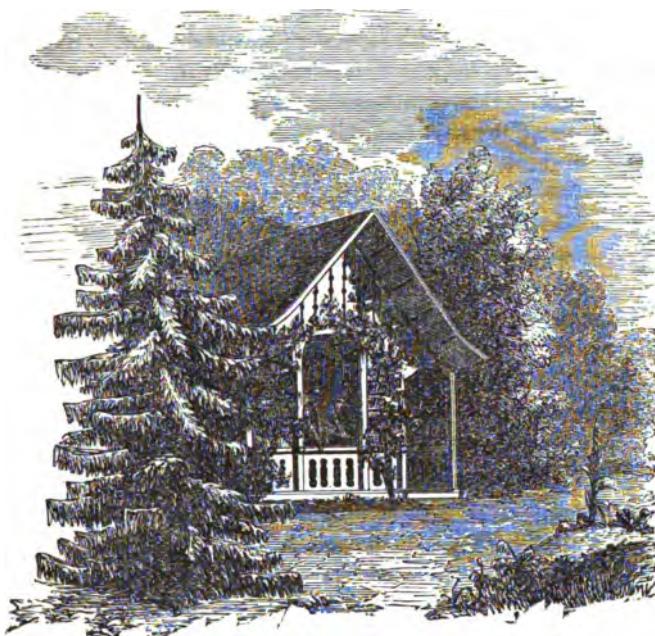


Fig. 1.—Summer House.



Fig. 2.—An Out-door Rustic Seat.

Picking, Packing and Marketing Fruit.

A meeting of the Central New York Farmer's Club, at Ithaca, the above subject was discussed, of which we have the following report. Mr. Gridley said:

It is perhaps unnecessary for me to state the fact that tens of thousands of dollars are annually lost to fruit growers and dealers in Central New York, in consequence of pears and apples being bruised, badly assorted, poorly packed—sent to market too early or too late. I propose to give a very few brief common sense directions, trusting some one of the losers may be benefited. Pears and apples should be so packed or gathered as not to bruise them. If growers or dealers are disposed to send bruised or inferior fruit to market, it is better for all concerned, to mark the packages No. 2.

Summer and fall apples should be sent to market sufficiently early to arrive in sound condition.

Picking Pears—The general test, as to the time to pick pears, is when the stem will cleave from the spur, without breaking, when the pear is raised. The Flemish Beauty, Beurre Diel, and some other varieties, are lessened in value very much if allowed to remain on the trees until ripe. The Bonne de Jersey and Beurre d'Amalis are frequently picked too early. The Bartlett, Flemish Beauty, and some other varieties ripen so uneven they should have two or three pickings. When summer and fall pears are to be sent to market they should be picked when green, and all pears when not wet by dew or rain. Winter pears should be picked as late as the weather will allow. The growers and dealers who forward to our principal markets, will doubtless realize more to sort well, and pack carefully the best varieties of pears in strong crates, like the peach packages. Inferior varieties may be put in half or whole barrels.

Barreling apples and pears—A sufficient number of, say No. 1, in quality of apples should be placed with the stem downward, to cover the head that is to be marked and taken out. Then for No. 1 packages, such apples or pears as are fair, good size, and not bruised, should be put in the barrel, so as not to bruise them.

When the barrel is a little more than full of fruit, having been well shook down, a screw or lever should be used in pressing down the fruit, so as to put in the head so hard pressed that the fruit cannot be moved by the shake or manner of transporting the barrel. It pays better to do right, to so sort and pack fruit so that no purchasers may be deceived. If pears or apples are to be forwarded to some of the principal city markets, to be sold on commission, I suggest they be sent to a good, honest, responsible commission man, and allow him to exercise his judgment when to sell.

Mr. Lewis asked if the barrel should be headed as soon as it is filled, or should it be allowed to undergo the sweating process?

Mr. Gridley would not head up immediately for keeping, but for marketing late in the fall he thought it would be perfectly safe to head up as soon as filled. He would use only clean barrels. New ones are the best. Salt barrels should not be used.

A flour barrel, Mr. Lewis said, holds a half bushel more than apple barrels, and a salt barrel a half bushel more than a flour barrel. He has been accustomed to clean

flour barrels, by knocking all the loose flour from them, then using a broom, and lastly a woolen rag, could not get them perfectly clean.

Mr. Tuttle thought the best way to pick fruit is to pick every apple by hand and lay it carefully in a basket; they should never be dropped so as to be bruised in the least. In the packing, he would not drop a pear three inches, on to another pear, but place them very carefully. Cover the heads of barrels with brown paper. Thinks it keeps them from bruising. First layer of pears should be packed stem up; apples, stem down. He is acquainted with a fruit grower who picks his apples into baskets, not holding more than a peck, piles them in small lots on the ground and allows them to lay for some days, then packs them and heads up immediately. When they are barreled, the barrels are not allowed to be rolled, and are carried in spring wagons. Fruit that is worth taking to market is worth taking to market in the best style.

Mr. Butler, of New Hartford, had packed a great many apples for the New York market, and had always succeeded best in packing in new barrels. He had found that apples of equal quality, in a new barrel, will bring a half dollar more than in second-hand barrels.

Mr. Tuttle said that many buyers think that if fruit is brought to market in second-hand barrels, the fruit is second-hand. Most pears should be picked as soon as they will come off the stem. Louisa Bonne de Jersey should be allowed to remain on the stem until ripe.

Mr. Gridley would ripen pears in a cool, dark, dry place. Some varieties will ripen as easily as apples. Many winter pears, however, are difficult to ripen.

Mr. Tuttle had had good success in ripening pears, by spreading on the floor in a dark room and covering with a sheet, to keep the air from them.

Mr. Lewis had ripened the best pears in a perfectly dark room, and one which was not affected by the temperature of outside air. In other rooms he covered them in a manner similar to that adopted by Mr. Tuttle.

Mr. Campbell asked if this section raises much fruit for marketing. It was answered that no depot, east of Wayne county, ships more fruit than Clinton; and the entire county of Oneida is famous for its fruit.

Mr. Gridley has found that the best way in which to pack pears for market, is in bushel crates, and not in bulk or barrels. They sell more readily in market, for families.

An objection was made by Mr. Tuttle, to this method, because it would ripen the pears while exposed to the air; and the flavor would not be preserved. Mr. Gridley thought the short time they are on the road would not injure their flavor.

Mr. Butler has been instructed by New York buyers to pick apples carefully and put them in piles of 15 to 20 bushels and let them remain for several days, no matter if it rained during the time. Then, on a dry day, take them from the ground, pack them carefully in barrels, head them up immediately, and allow them to remain in the orchard until buyers called for them. He never had known any complaint being made of their condition when they reached market.

Mr. Lewis had had apples frozen in barrels in the fall or during the winter and come out all right in the spring. He covers the barrels with sawdust, and the apples

thaw out gradually in the spring and do not lose their flavor, because not exposed to the air or light. While frozen they do not rot, of course, but rot more quickly after they are thawed than though they had not been frozen.

All agreed that apples should be kept in as cool a place as possible until freezing weather comes, and when put in the cellar the temperature should be as low as 40°.

Mr. Lewis would have it as low as 35° if possible.

Mr. Campbell keeps his fruit in his barn cellar during the winter, as his house cellar is too warm.

Mr. Tuttle had tasted fruit kept in refrigerator packing house that had been picked a year and tasted as fresh as if just picked from the tree. It will begin to decay, however, in the course of three or four days after it is taken from the houses.

Scott's Suburban Home Grounds.

IT is nearly a year since we announced the preparation of a new volume on Landscape Gardening and Rural Taste, which would prove to be the finest ever issued in this country. It has now been printed by D. Appleton & Co., and is offered to the public. Mr. Frank J. Scott, the author, is an architect and landscape gardener, whose early life was spent in one of the towns of the Hudson river, where he became acquainted with A. J. Downing, entered his service as a pupil and became enamored of the art. He was familiar with all Mr. Downing's plans, especially in literary pursuits, and had often heard Mr. Downing express a desire to write and issue a book on American trees and shrubs, with plans for the ornamentation of home grounds, which should be the most full and complete ever published for American use. His early death prevented the carrying out of so happy an idea. Mr. Scott never forgot it however, and since that time has patiently gathered all necessary material, has taken Mr. Downing's ideas where he left them crude and unfinished, has weaved them with his own into a harmonious whole, and for the past ten years has been at work preparing, revising, writing, and putting all the necessary tasteful touches in order to render the volume unique, beautiful, complete, and a *chef d'œuvre* of rural art and taste.

The result has more than equalled the anticipations we had formed of it. More than \$5,000 have been spent upon it in illustrations—and a lifetime of careful thought, has made it almost faultless in its idea and details. The volume is devoted to four objects.

- 1st. To the consideration of Rural Taste in itself, how to diffuse it more widely.
- 2d. Landscape Gardening, what it is, and how brought within the ordinary range of the people.
- 3d. A complete descriptive list of all ornamental shade-trees, shrubs, vines, etc., fit for use in villa or cottage grounds.
- 4th. It gives over forty plans of grounds, as a guide to any one about to build how to lay out his place handsomely.

The author has aimed principally to meet the wants of that class of men in the suburbs of large cities, who have small spaces of five lots to five acres, who wish to make their area as handsome as possible, at moderate cost. A great deal of useful information is given of how to select the proper ground, drain it; what buildings to erect, designs for them; what color to paint, fences to put up; hedges, materials to be used in decorative planting; faults to avoid; walks and roads, how to plant in harmony; the fitness of trees to different locations; plans for flower-beds; characteristics of trees, their forms of growth, etc., 300 pages are devoted to this style of topics, and 300 pages more are devoted to a detailed description of every species of ornamental tree, shrub or vine, now cultivated and fit to be planted, numbering over 1,200 kinds. This list alone contains information worth \$10,000 to every horticulturist in the country, and renders it the finest and most complete book of its kind now extant.

The volume contains 600 pages in all, is sumptuously bound, and is sold at the uniform price of \$8.

Hereafter, to any one asking for the best book on Landscape Gardening, or the best on American trees and shrubs for ornamental use, or the best book with plans for laying out home grounds, our only answer will be, get "*Scott's Suburban Home Grounds.*"

Blackberries for Market.

WE shall be compelled to discard the Kittatinny and the Dorchester for market, on light soil, much to our regret. The former because it is too soft and arrives in market too dull in color. The latter because it is too small. These two have been displaced entirely in our eastern markets by the *Wilson Early*. This berry is so large, so bright, so handsome, glossy, and retains its color so well, that as long as it lasts absolutely no other variety can be sold, and it usually has to be closed out at a sacrifice. There is very little demand for canned blackberries, and the only resort is to dry the fruit that cannot thus be marketed.

The Lawton is still among the most popular varieties with the market men. Its large size and good color are its only arguments for a good sale, still it will outsell in price any day the much better Kittatinny and Dorchester. The Kittatinny is the very best family fruit we have. The Dorchester is quite as bright, firm and glossy as the Wilson, but small. If, however, it is grown upon heavy land, or is mulched heavily, say 3 to 4 inches, the fruit will be fully doubled in size and hence made more marketable and profitable. We doubt very much if the Wilson will prove a profitable berry in the State, north of New York. It is best adapted to light, warm, loamy soil, and is more productive and earlier than on heavy lands. Hence we say that for family choose the Kittatinny and Dorchester; for fruit grown for market in the South, on light soil, plant the Wilson or Lawton; for the North, on heavy lands, any or all except the Wilson.

Summer Pruning of the Raspberry.

CULTIVATORS too frequently allow raspberry bushes to run rampant the season through, and do the pruning the following spring, when much severe cutting is required in bringing the plants into shape. A proper share of attention at the right time, and a small amount of labor, will enable the owner to bring them into a suitable form, retain all their vigor, and obviate much of the care required for staking the plants.

With the Black Caps, the stems of which are long and slender, more attention should be given to pinching back early, than to the others or suckering raspberries. In the Northern States this pinching should be performed once, or as soon as the new shoots are a foot or so in height. The thumb and finger will easily take off the tender tips of the shoots, which is all that is needed. The new canes will then begin to become thicker and stouter, and in a short time will throw out laterals or side branches. These laterals should in turn be pinched off, so as to give the bush the form shown by the dotted line. If the pinching is not done in time, it will be necessary to cut off the tips, which by lopping a portion of the foliage, will give the plant some check, but will be better than to leave it to grow into a straggling form.

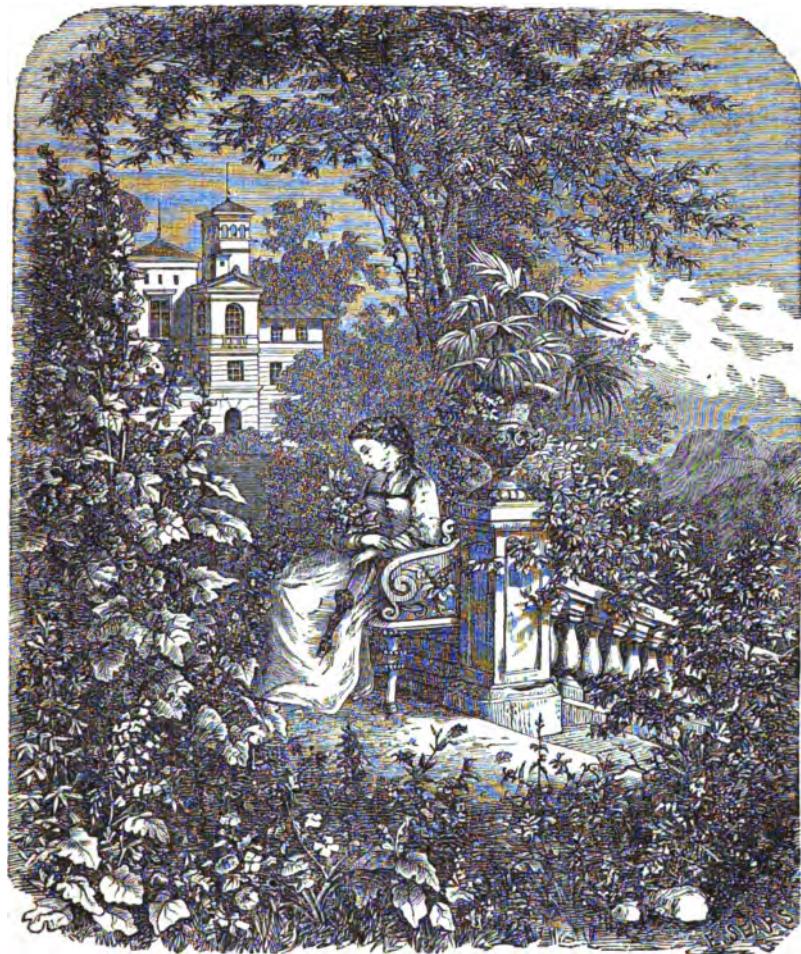
As the suckering raspberries have shorter and stiffer canes than the Black Caps, the pinching off may be done later, or when they are some three feet high.

In addition to keeping the bushes thus in proper form, it is necessary to thin out supernumeraries which spring up in the shape of suckers, and the earlier they are cut out with a sharp narrow hoe, the better. If left to grow for a time, they are like weeds, and injure the growth of the selected and retained bushes. While the bearing canes are left for this year's crop, the new ones for next year should have as good a chance as practicable. Four or five of the best are selected, and all the rest cut away; and as soon as the old canes are done bearing, they too should be removed, giving the new canes full and entire possession for perfecting and ripening their growth. The following season, when they are to bear, it is necessary to tie them loosely to a stake, the tops being cut off at the same time to a height of about four feet.

Cultivators differ to some extent as to the propriety of pinching back the growing canes so as to render them stiff and broad, and to obviate staking allow them free growth the first year, and cut back the following spring, and then stake. But there is no question that pinching back is beneficial, and should be adopted even when the cultivator prefers to secure his canes firmly to stakes, inasmuch as stout, well ripened wood is better than long, slender and unripened; and neat, well shaped plants are to be preferred to stragglers.—*Country Gentleman.*

Garden Flowers.

THE sketch on the opposite page, represents a floral scene in one of the most finished of European villa grounds. It is the frontispiece to Daisy Eyebright's new book "Every Woman her own Flower Gardener," the mention of whose name is alone sufficient to promise a rich treat of contents to all floral readers. The book will be ready September 1st.



Floral Scene.

The American Pomological Society.

THE next biennial meeting of this society will be held at Richmond, Virginia, in Assembly Hall, Eighth street, between Grace and Franklin, on the 6th, 7th and 8th of September, 1871. The circular just issued by the officers of the society states that exhibitions of the Virginia Pomological and Horticultural Society will be held in conjunction with it, and thus ample opportunity is afforded not only to examine the fruits of the South in comparison with those of the North, the West and of the Pacific Slope, which it is expected will be freely contributed, but also to foster and perpetuate the amicable and social relations which have heretofore existed between the members of the Society, and to widely diffuse the result of its deliberations for the benefit of our constantly expanding territory.

The climate of Virginia and adjacent States is believed to be admirably adapted to the culture of fruits, especially the pear, the grape and the strawberry. It is therefore hoped that there will be a full attendance of delegates from the South and the West, as well as from other quarters of our country, thereby stimulating more extensive cultivation upon which the North are so largely dependent for early supplies; thus also, by the concentrated information and experience of cultivators, to aid the Society in completing the second division of its Catalogue of Fruits, being that part which pertains especially to the Southern States. This will be one of the prominent subjects which will come before the Society, and we therefore respectfully invite the various State and Local Committees to report to P. Barry, Chairman of the General Fruit Committee, agreeably to the constitution of the Society, such information and lists of fruits as may aid in determining what varieties are best adapted to their several localities. These reports should be transmitted by mail to F. R. Elliott, Secretary, Cleveland, Ohio, as early as possible.

Arrangements have been made with the various railroad companies, terminating in Richmond, to return all members and others free of charge, who have paid full fare in coming, and who exhibit certificates of the Treasurer that they have attended the sessions of the Society. Similar arrangements can undoubtedly be made by the various delegations, with roads in their localities.

Members and delegates are requested to contribute specimens of Fruits of their respective districts, and to communicate in regard to them whatever may aid in promoting the objects of the Society and the science of American Pomology. Each contributor is requested to prepare a complete list of his collection, and to present the same with his fruits, that a report of all the varieties entered may be submitted to the meeting as soon as practicable.

Packages of Fruits with the name of the contributor, may be addressed as follows: "American Pomological Society," care of H. K. Ellyson, Secretary Virginia Horticultural and Pomological Society, Richmond, Va.

All persons desirous of becoming members can remit the admission fee to Thomas P. James, Esq., Treasurer, Philadelphia, who will furnish them with transactions of the Society. Life Membership, Ten Dollars; Biennial, Two Dollars.

To encourage full attendance and a liberal display of Fruit, the following liberal premiums have been offered by private parties to exhibitors, besides the premiums of the Virginia Pomological Society:

All fruits must be grown by the exhibitor.

1. The Virginia Pomological and Horticultural Society offer One Hundred and Fifty Dollars.
2. Ellwanger & Barry, of Rochester, New York, offer Fifty Dollars for the largest and best collection of Apples, not less than fifty varieties, three specimens of each.
3. Marshall P. Wilder, of Boston, Mass., offers Fifty Dollars for the largest and best collection of Pears, not less than fifty varieties, three specimens each.
4. Charles Downing, of Newburgh, New York, offers Fifty Dollars for the largest and best collection of American Grapes, not less than twenty varieties, three bunches each.
5. Thomas P. James, of Philadelphia, Pa., offers Thirty Dollars for the largest and best collection of Peaches, not less than ten varieties, of six specimens each.
6. Gen'l R. L. Page, Norfolk, Va., offers Ten Dollars or a Medal for best half bushel of the Flowers Grape.
7. G. F. B. Leighton, Norfolk, Va., offers Twenty Dollars or a Medal, at the disposition of the American Pomological Society.
8. C. D. Barbot, Norfolk, Va., offers Twenty Dollars or a Medal for best dozen bottles of Scuppernong Wine.
9. L. Berkley, Norfolk, Va., offers Ten Dollars or a Medal for best dozen bottles of the Flowers Grape Wine.
10. W. H. C. Lovett, Norfolk, Va., offers Ten Dollars or a Medal for best Dried Figs,—cured within the territory of the Society.
11. Hon. Jno. B. Whitehead, Norfolk, Va., offers Twenty Dollars or a Medal for best half bushel of Scuppernong Grapes.
12. W. S. Butt, Norfolk, Va., Two Premiums of Five Dollars each or Medals,—one for best Figs ; the other at the disposal of the Society.

It is now expected that there will be large delegations from the New England and Middle States.

For the information of those who would like to join, we will state that there will be a large party of New York Editors and Horticulturists, who will make an excursion by the Old Dominion Steamship Line, from New York to Richmond, leaving on the Saturday before the session, and giving a trip of two days. This route is the most direct, and also most economical. Information can be obtained of P. T. Quinn, Newark, N. J., if any wish to join this party. Reduced rates, much more favorable than railroad fare can be obtained of this line.

Horticultural Novelties.

The following novelties are described by C. L. Allen, in the *Horticultural Annual* for 1871, just issued:

Lilium Speciosum Praecox.

It is closely allied to the well known *Speciosum Album*, but a more vigorous plant, growing from three to four feet high, and bearing from twelve to eighteen flowers, on very long peduncles. Color, pure white, with a slight rose tint on the ends of the petals; form, perfect; petals nearly alike. The fringe in the centre of the flower is very long and fine, giving it an exquisite appearance. The lily is perfectly hardy, and is readily propagated by scales and offsets, which are produced in great numbers. As yet very scarce.

Lilium Tigrinum Flore Pleno.

Double flowering Tiger Lily. This attractive variety produces beautiful double flowers in immense numbers, of a bright, orange-scarlet color, thickly studded with dark, brown spots. The plant is of vigorous growth and habit, from four to six feet in height; foliage, dark-green and long.

Lilium Tigrinum Splendens.

Has the same general appearance as the common Tiger Lily, but of more robust growth and habit; foliage, very dense and beautiful; flowers, very large and numerous; of dark, orange-scarlet color, with dark, brown spots, very large.

Lilium Fortunei.

Another variety of the well known Tiger Lily, is a splendid plant, growing from six to eight feet high, bearing from thirty to forty flowers on a single stalk. The lower flower-stems running out far from the stalk, giving the inflorescence a pyramidal outline. Color, a bright scarlet, thickly studded with small, dark spots. A desirable feature of this lily, is the length of time the plant is in flower; notwithstanding the excessively dry and hot weather, we had one plant in flower, last season, in the open border, for upwards of six weeks.

Lilium Ledeburii,

Is a charming new variety, from Japan; of unusually small, slender growth; from one to two feet high; flowers of a pure, golden-yellow color, thickly spotted with delicate purple. Very scarce variety.

Lilium Humboldtii,

Is a valuable acquisition. The plant is of stately habit, growing from six to seven feet high; flowers of pure yellow, spotted with scarlet, produced on low peduncles; drooping, very floriferous, making it a magnificent variety.

Lilium Washingtonianum,

Is a plant of rare merit, the finest variety yet found in this country. The flowers, which are produced in great numbers, are pure white, spotted with bright scarlet, peduncles erect. The flowers have a most delightful fragrance. The plant grows to very great size, from twelve to fifteen feet high, and bears from fifty to sixty flowers.

Amaranthus Bicolor Rubescens.

Peter Henderson speaks as follows of this splendid new bedding plant: "A magnificent new annual, growing to the height of five or six feet; the lower part of the leaves is a dull red or brown, but when the full growth is attained, the terminal shoots, for ten or twelve inches, assume the most brilliant scarlet. A few dozen of these planted in St. Paul's churchyard, New York, last summer, were the wonder and admiration of the thousands that daily pass there. As a plant for massing on a green lawn, it excels, in gorgeous coloring, any thing that we know of in cultivation."

Erianthus Ravennae.

Mr. Henderson also says: "We have had two plants of this majestic, ornamental grass growing for the past four seasons, which have stood out during winter with only slight protection. The past season each plant sent up over thirty flower stems to a height of nine or ten feet, attracting more attention, perhaps, than any other plant in our grounds. It resembles, somewhat, the Pampas Grass, but blossoms far more freely, and being hardy, is far more valuable for that reason. It is easily grown from seed; some sown in our green house, last March, threw up flower stems eight feet high by October.

Bouvardie Jasminoides.

"This supplies a want that has been much felt by the bouquet makers. Heretofore we have had no white Bouvardie of free growth, but *B. Jasminoides* is all that could be desired.

"It is of the freest growth, rooting from cuttings as easily as a Verbena or Geranium, and blooms without cessation from October to April, covering just the season when flowers are most scarce and most prized. The flowers are borne in panicles of six to ten florets, each floret being star-shaped and about half an inch in diameter, of a pure, waxy white, resembling a Jessamine rather than a Bouvardie. It has, also, something of the Jessamine fragrance, particularly at night. Take it, all in all, we consider it to be the most valuable winter-flowering, greenhouse plant introduced in the past twenty years. Its origin is not well known, but is supposed to have come from seed brought from South America."

The Geranium.

BY WILLIAM F. PORTER, IN "OHIO FARMER."

The Zonale geranium is one of the most popular of our bedding plants, and deservedly a favorite. They are strong and healthy growers and stand our dry summers well, continually in bloom from June until November. Comprising a variety of colors; white, salmon, rose, crimson, scarlet, etc. There is no sight more effective than a large bed filled with the different kinds in full blossom. I had the pleasure of seeing such a bed, containing nearly one hundred varieties, in the grounds of Peter Henderson, the celebrated florist, a few summers ago, and it was a sight to be remembered. A bed of the scarlet varieties planted in the midst of a green lawn, can rarely be excelled for beauty and brilliancy, fairly dazzling the beholder.

There were fifty varieties of geraniums blossomed in my garden last summer, and as I had a good opportunity of judging of their merits, I will give a list of twenty-five, which comprises the best of the collection :

Light Colors. Aurora, cherry pink ; Beaton's Perfection, bright pink ; Helen Lindsey, deep carmine pink ; Maid of Kent, richest shade pink ; Mons. Barre, rosy pink ; Marie L'Albe, white, rosy pink center ; Philomena, white, salmon center ; Bridal Beauty, white banded rose ; Bicolor, white, salmon rose ; Glorie de Corbenay, salmon pink ; Belle Helene, salmon pink ; Aurantia Striata, orange salmon.

Scarlet, etc. General Grant, dazzling scarlet ; Union, light scarlet, white eye ; Hector, light dazzling scarlet ; Glow, bright scarlet ; Donald Beaton, light dazzling scarlet ; Successful, orange scarlet ; Regalia, bright rose ; Rosamond, bright rose ; Fire King, rich scarlet ; Sheen's Rival, scarlet, ornamental foliage ; Dr. Newham, pink rose, ornamental foliage ; Paul L'Albe, pinkish crimson ; Little Dorret, salmon rose, white eye ; a variety fine for center of hanging baskets.

The Gold and Silver variegated geraniums comprise some of the most beautiful of the family, whose wonderful markings are a triumph of the horticultural art. But there is one sad drawback connected with them ; that these beautiful colors will not stand one hot, dry summer, and though they are a striking ornament in the parlor or conservatory, they are not effective in the flower garden. There were but two among the twenty varieties, bedded out last summer, that did well, but they were very fine and paid well for the disappointment in regard to the others. The Mountain of Snow grew as vigorously as any of the Zonales, and retained the variegation of its foliage during the hottest weather, and the Bronze Queen did nearly as well. The Mountain of Snow makes an effective edging for a foliage bed, of which more anon.

The varieties, Mrs. Pollock, Sunset and Cloth of Gold, make a fine pot plant, whose wonderfully marked leaves form a beautiful ornament for the drawing-room, and no person should be without them. They also look well and do finely as a center to a hanging basket, when it is hung in a shady situation.

The novelty of the past few seasons has been the double-flowering geraniums. They are universally admitted to be far superior to all the other varieties, and though still held at high prices, a few should be in every collection. They are of vigorous growth, with rich, green foliage, bearing trusses of from forty to eighty blossoms ; each stem forming a bouquet. They stand the hot weather well, blooming as freely in the garden as the green-house, and have one decided advantage which makes them valuable for florists, that they do not shed their petals as soon as cut, as most of the other geraniums do. The following are the best varieties :

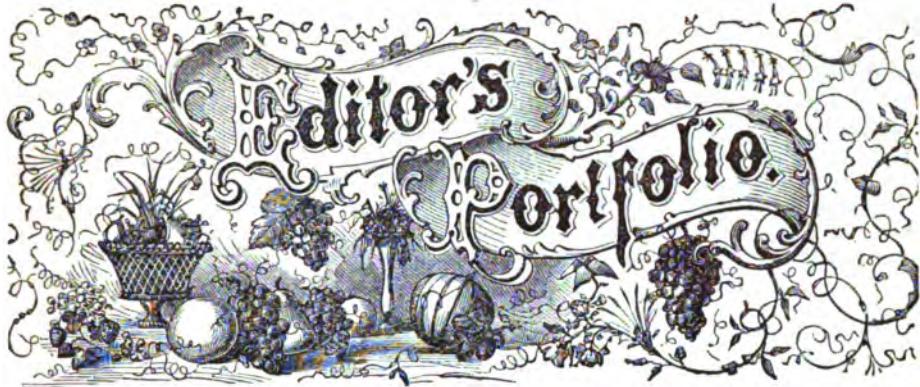
Andrew Henderson.—A dark scarlet, vigorous branching habit ; truss of extraordinary size, contains from sixty to eighty flowrets.

Triumph.—Rich shade scarlet, very full and double.

Surpass Glorie de Nancy.—Bright rosy carmine, of fine form ; larger than Glorie de Nancy.

Triomphe de Lorraine.—Bright cherry carmine, habit compact.

Madame Lemoine.—Bright rosy pink, large truss, very double, free bloomer. The queen of the doubles and the admiration of every one.



Editorial Notes.

To Cure Troublesome Birds in Cherry Time.

It is recommended by experienced gardeners, that if a couple of trees of the black mulberry are planted close to the cherry trees, or among them, the birds will leave the cherries and devote their undivided attention to the mulberries.

We have found it almost impossible to keep the birds away unless we plant and leave something for their benefit as well as our own.

A Cool Surface for Fruit Trees.

It is curious to see how rapidly really useful ideas spread; and also how strangely perverted they get to be, sometimes, in raw hands. It is the fashion, now-a-days, for every one to say that *fruit trees need a cool soil*, and good cultivation is now understood to mean not stirring the soil only, but *careful treatment* and judicious methods, even, sometimes, of non-cultivation.

We met a curious instance lately, where there was a perversion of this idea—a fruit-grower (a Vinelander, of course), contends that grapes and blackberries ripen better by having the fruit close to the ground; hence he does not believe in stakes or trellises, but lets them ramble where they like. He has got the idea of a *cool surface for fruit* into his head also, but he does not cultivate, does not manure, does not mulch. He believes it best to let the grass grow in the rows and around the hills, for it *keeps the ground cool*. He even don't believe in pulling up the weeds, for they are useful in *shading the land*. *Wonderful man!* like Nebuchadnezzar of old, he will have to *run to grass* too, to get his living, if he expects to follow his ideas out to perfection, after that fashion. We saw a specimen of his fruit beds, and we felt like adding another part to the fruit-grower's *creed*, as follows:

“From strawberry beds over run with grass, from cooling weeds and running grapes,
Good Lord deliver us.”

Hawthorns for Ornament.

The *Rural New Yorker* advises the more general culture of the Hawthorns as among the most elegant of the ornamental class of trees.

“They are in full bloom during the last half of the month of May, and with their pink, white and purple flowers, make a splendid show. The single flowering sorts are very handsome, but last for but a few days, while the double flowers remain for two or three weeks.

“Few trees of so hardy a character as the Hawthorn make so brilliant a display when in bloom, as the single varieties do when loaded with fruit in the autumn. The flowers of the double sorts resemble small roses crowded into dense clusters, two or three inches in diameter.”

The Cut Leaved Sumach.

Mr. W. Robinson, in his new book of the "Subtropical Garden," gives prominence to an American plant little thought of by American ornamental gardeners, the cut leaved variety of the common Sumach (*Rhus Glabre*). The Editor of the *Hearth and Home* says: "The plant, which, though it has been known these twenty years, is scarcely to be found in our collections, is yet one of the most beautiful shrubs we have ever seen. Its cut leaves have a wonderfully fern-like appearance, and the whole habit of the plant is charming, while its appearance, when it puts on its autumnal colors, is brilliant beyond description."

Colossal Asparagus.

At the Farmer's Club, N. Y., a letter was read from James Smith, Pittsford, N. Y., who bought, two years ago, fifty cents worth of Colossal Asparagus seed, and transplanted it in the spring of 1870. "He is now cutting from it for the table, liberally, every day. He urges that Mr. Bruen's advice that a farmer grow his own roots from seed, is good, unless he can get them very near at hand. He failed twice by purchasing roots. Mr. Bruen said he had not found Conover's Colossal to do any better, nor produce any larger growth, than a bed of his common sort. Dr. Trimble said it should not be judged by a single year's trial. So, also, said Mr. Lyman, who found that the first year's growth was not strong, but it, thereafter, grew stronger."

The Inducement to Plant Forest Trees.

Dr. Chas. Hay, of Warsaw, Ill., read a paper recently before the Horticultural Club of that place, saying: "That as an investment for our immediate heirs, tree planting is better and safer than a life insurance policy. The growth of wood on ten acres of land, in the older States, it has been proved by experiment, will, in twenty or twenty-five years, equal the price of the land. In twelve years White Maple grows one foot in diameter and thirty feet high; Ash Leafed Maple, one foot in diameter and twenty feet high; Black or White Walnut, Elm and Chestnut, the same; Hickory, eight inches in diameter and twenty-five feet high. The different varieties of Evergreens make an average growth of twenty inches in height, annually." Mr. Scofield, of Elgin, Ill., says: "From his own experience, timber three feet in diameter can be grown on our prairies within fifty years. He recommends the Sootch and Weymouth Pines, for rapid growth, in preference to the Tyrolean Larch."

A New Use for the Eucalyptus.

In one of the French hospitals at Cannes, the Doctors have tried, instead of lint, Eucalyptus leaves. The leaves have a catty smell, and are merely laid on the wounds of the injured soldier. The balsamic nature of them not only cures, but after a few hours, all the unpleasant odor of the matter ceases.

Eastern vs. California Fruit.

California Horticulturists are very anxious to have some of our Eastern fruit-growers send specimens of their fruit to the Pacific Coast, where it can be placed in fair competition with some of California's best, and the vexed question of quality, amicably settled. It seems natural for every section of the country to claim a special pre-eminence for one or more points in fruit culture.

The Californians have always claimed that their fruit was the finest in size, fairness and productiveness, and no one has disputed their claims,—but, as Eastern horticulturists have, from time to time visited that coast, they have felt that the claim for *quality* could not be as well maintained as the fruit grown on the Atlantic slope.

The characteristics of California fruit, which we gained from careful notice while

we were there last year, were, viz.: a sweet, pleasant flavor, dryish, mealy texture, freedom from acidity, or but moderate sub-acidity, a lack of juice, spirit, or spicy, aromatic taste. It is very natural for fruit, grown in a dry country, to be less juicy than those grown in a land of frequent rains, hence more sweet, and less distinctive in flavor. Here, our fruit has a *spirit, aroma*, and an abundance of juice, which makes the eating of almost any variety perfectly luscious. Nearly every visitor to California will, we believe, confirm these opinions. And if any of our friends could send to California specimens of our Beurre d'Anjou, Seckel, Bartlett, or other pears, to be tested faithfully in comparison with some from California orchards, we doubt not it will be found there is quite a difference in flavor, if not size.

Successful Every Year.

The Grape crop of California, it is stated, has never been known to have been a failure. Wet seasons or dry seasons, and every season they have done so well, as scarcely to cause any complaint.

A Profitable Strawberry Garden.

A gardener near San Jose, California, planted in 1868 and 1869, fourteen acres in strawberries. In 1869 he sold forty-four tons of berries for \$6,000; in 1870, forty-one tons for \$5,800; and a total for three years of \$21,800. From a space of 211 square yards, or two and a quarter acres, he shipped \$100 worth per week from March 1st to May 1st, or \$800, at six cents per pound. He has eighteen acres newly planted this year in Conover's Colossal asparagus, planted five feet by three.

How the Leaves of the Grape Vine Affect the Ripening of Fruit.

A practical grape grower in his letter to the *Country Gentleman*, says, that he observed that when the leaves of the vines were scant, the fruit did not ripen well, while in another part where the foliage was thick, the clusters of fruit were larger and ripened well. Where a Concord vine was close pruned, yet abundance of leaves retained, the fruit ripened at the proper time, but where the fruit was unusually heavy and close, it did not mature rapidly. Hence he forms the general conclusion that an over heavy crop is tardy in ripening. The cure for this is *thinning*. It hastens maturity, increases the quality and size of the fruit, favors the wood growth, and the set of fruit for the year following. The same rule will apply to all standard fruits as well as the grape.

A New Seedling Strawberry.

As some parties are giving, through the press, accounts of the high promise of their new seedling strawberry plants, allow me to state that I now have the most promising one that I have ever raised.

The seeds were from Downton's Kentucky.

Sown April 22d, 1870, came up last of May of the same year.

At the present time (May 25, 1871), the plant alluded to, has ten well developed fruit stalks and about sixty-five berries on it, most of them large.

In appearance and flavor it resembles its parent, and it is, also, very late in ripening.

J. S. D., Fairview, Ky.

Market Value of Cherries.

A greater number of varieties of cherries have been noticed in our market this season than usual. The first cherries that arrived from the South were the May Dukes, from Delaware, about June the 1st, and sold for twenty cents per pound. From that time to July 1st, they were followed by the Gov. Wood, Black Heart, and Black Tartarian. The last is a favorite variety, and large quantities are received from Rochester and Central New York, selling from fifteen cents per pound upwards. Pie Cherries, Morello, Early Richmond, brought six to ten cents per pound. By

far the finest cherry for amateur culture, is the Napoleon Bigarreau. It is more firm, but not as juicy as some of the others, yet is very handsome and large, and receives an extra price, rarely ever falling below twenty-five cents per pound. Cherries are apt to spoil worse than any other fruit, hence are valuable only for a near market.

Currants for Profit.

Experienced cultivators say that they cannot discern the difference between the Cherry and the Versailles currant, in size or flavor. Be this as it may, yet growers for profit generally prefer the true Versailles, as being more productive. The crop of currants, this spring was excellent, and more abundant than usual. Ordinary Red Dutch currants brought but six to eight cents per pound,—while a few fancy Cherry currants brought eighteen cents. It is estimated that at only six cents per pound, an acre will yield \$300, and at ten and twelve cents, \$600 dollars profit. As they cannot be grown in light, warm, loamy soil, and must be grown on heavy, cool, moist soil, it follows that they are limited principally to Hudson River, Connecticut, and further north, and when the crop ripens, it does so all at once. It is one of the most profitable fruits any one can grow.

Cheap Pears.

Fine Bartlett pears sold, last fall, in Oregon for fifty to seventy-five cents per bushel. They would average a pound each. The largest pear raised in the State weighed four pounds four ounces, and measured twenty-one inches in circumference lengthways, and eighteen inches in width. Pears are so plenty that the people now dry them, and sell for twelve and a-half cents per pound.

Dried Apples.

It will pay \$1 per bushel to cut up apples and dry them. A New Hampshire family cut up 250 bushels last fall, which when dried made 1,457 pounds, and sold for 21 cents per pound, netting \$300.

Dr. Warden Strawberry.

This is the name of the new seedling raised by Lous Ritz, of Plainville, O., and which received the \$50 cup offered by the Cincinnati Horticultural Society. Its characteristics are as follows:—"great productiveness—every blossom bears a berry—does not require high culture—has uniform shape—large size, and has sufficient firmness for a market berry, has a better flavor than our market sort, and ripens later than others (won't do for profit near New York), has a healthy foliage, and will stand extremes of temperature well."

Curious Effect of Summer Pruning Grapes.

The London *Gardener's Chronicle*, in a recent article on "pruning the grape," states that vines in vinerics, pruned in September, while the leaves are on, will have the succeeding crop ripen fifteen to twenty days earlier than other vines pruned in November, all other circumstances being equal. "The experiment has been tried for years on vines that yielded a supply of fruit from June until January, and whether in the early or in the late houses the result is the same."

Wash for Plants.

The *Florist and Pomologist* says, that the following is strongly recommended for mildew, scale, red spider, etc., upon greenhouse plants and out-of-door shrubs and trees: Flour of sulphur two ounces, worked to a paste with a little water; sal soda, two ounces; cut tobacco, half an ounce; quicklime the size of a duck's egg; water, one gallon. Boil together and stir for fifteen minutes, and let cool and settle. In use it is diluted according to the character of the plants, which are to be syringed with water after the application.

New Catalogues.

Messrs. T. C. Maxwell & Co. have issued a new Catalogue of ornamental trees with new illustrations of the Weeping Birch and Austrian Pine. Messrs J. S. Downer & Son, Fairview, Ky., have issued a very dainty Catalogue of fruits, containing a steel plate engraving of Mr. Downer. It is quite tasteful, and the only Catalogue we have ever seen thus richly embellished with steel engravings.

Remarkable Rose Bushes.

The oldest of all rose bushes is said to be one which is trained upon one side of the cathedral of Hildesheim, in Germany. The root is buried under the crypt, below the choir. The stem is a foot thick, and a half dozen branches nearly cover the eastern side of the church, bearing countless flowers in summer. Its age is unknown, but documents exist which prove that a Bishop Hezilo, nearly a thousand years ago, protected it by a stone roof, which is still extant.

The largest rose bush is a white Banksia—so called after Lady Banks—in the Marine Garden of London, which was sent there, the first of its kind, in 1812, by Bonpland. Its numerous branches, some of which measure eighteen inches in circumference, cover an immense wall to the width of nearly sixty feet, and at times, in early spring, as many as fifty thousand flowers have been counted on this queen of all roses.

The Western Pomologist and Gardener.

The consolidation of these two, has been to the mutual advantage of each—and the improvement of literary character. The June No. is much the best yet issued.

Mulching Evergreens.

Tens of thousands of trees were lost last season, throughout the West, from inattention to mulching. Evergreens need mulching no less than fruit or other deciduous trees—in fact more, for their fine fibrous roots will ramble near the surface, however deep the tree may be set. Never stir the soil about an Evergreen, but use mulch unsparingly, to the full extent of the roots.

Cutting Asparagus.

The *Florist and Pomologist* says, "don't cut asparagus when intended for home use, but let it grow to the height of 6 or 8 inches, then break it off at the proper length; it is as brittle as an icicle, and can all be eaten, which is more than can be said of the article usually sold in the markets."

Magnitude of the Strawberry Business.

Very few know how many strawberries are sent to our large Eastern markets. We are able to give approximate estimates of the yield for this season.

Norfolk, Va., shipped to New York, this spring, about 1,200,000 quarts. Delaware and Maryland sent to Philadelphia and New York about 3,000,000 quarts. The crop of Southern and middle New Jersey, sent to Philadelphia and New York, was about 1,000,000 quarts. From Northern New Jersey, Hudson River, Connecticut and Long Island, about 1,000,000 quarts were raised. Boston receives about 500,000 quarts during the season; so that the aggregate of strawberries consumed in three great cities, and produced in a belt of country reaching from South Carolina to Maine, is about 7,000,000 quarts annually. The value, this year, is about twenty cents net per quart to the grower.

New Jersey Strawberry Exhibiton.

The Annual Strawberry Show of the New Jersey State Agricultural Society, was held at Elizabeth, New Jersey, where a fine collection of green-house plants were displayed, as also, some of Mr. Durand's seedlings, and the list of varieties of strawberries of the Union county Farmers' Club. The entertainment was good, but not large, owing to the partial failure of the crop near that place.

Bliss & Sons' Strawberry Exhibition.

The principal strawberry exhibition near New York, this season, was at the Horticultural store of Messrs. B. K. Bliss & Sons. These enterprising gentlemen offer premiums at their own expense for best display of fruits in their season, at least twice each year, in the spring for strawberries and in the fall for grapes. It is hardly necessary to say that they are very successful in inducing a great interest and bringing together a great crowd of visitors. At the exhibition this year, upwards of \$400 were distributed in prizes, and most of the fruit was unusually fine. The seedlings of Mr. E. Durand, Irvington, N. J., were excellent; his Late Prolific, Black Defiance and New Jersey Seedling attracting considerable notice and drawing a number of prizes. Prof. Huntsman, of Flushing, received the highest prize for best new seedling, named the Kissena, a long, pointed berry, like the Lady Finger, but white, like the Lennig's White, and of very fine flavor. At a little later period of the Exhibition, there was brought in by Robert Turnbull, of Norwalk, Ct., a magnificent new variety called the Champion. Its color was very fine, and size superb, but was not firm enough nor of good quality to enter for the prize. Messrs. Reisig & Hexamer exhibited the largest collection of varieties and received eight prizes.

The Lawrence Pear.

This pear does not receive as much attention by general growers as it deserves, though it is beginning to be appreciated. We have few superior in point of quality or for keeping late, and none in its early fruiting and steadiness of bearing, or in the hardiness of the tree. It is very accommodating too in ripening. It commences to mature in the latter part of October and goes on, as it is exposed to a warm atmosphere, or kept in a dark, cool place of even temperature, up to February! We should suppose it would just be the pear for general cultivation among farmers, who, if they would give it the same attention they give to other crops of the farm, would be sure to get abundance of excellent fruit. The tree can be obtained at almost every nursery, and we commend it to the attention of our agricultural readers as a substantial acquisition in the pear line and not a fancy article.—*Germ. Telegraph.*

The Pea Bug.

The same paper says that the Pea Bug can be effectually got rid of, by taking the seed when ripe and dry; put it in bottles and cork it up *perfectly air-tight*. The larvae, though not so minute as not to be seen by the naked eye, will die for want of air, just like any other living thing.

The Mexican Everbearing Strawberry.

The *Germantown Telegraph* says, that the Mexican and the old Alpine, grown on the grounds of its Editor, are one and precisely the same, not a particle of difference being discovered in their growth for several years, and considers Mr. Fuller's exposure as complete and final.

A Curiosity in the Market.

On Tuesday, June 27, there were found in New York, strawberries, black and red raspberries, blackberries, whortleberries, cherries, currants, peaches and *ripe apples*, all for sale side by side on the same market stand. When it is known that apples are four months later than strawberries, it is something of a curiosity to see extremes thus meet at this early date of the season. The strawberries came from Connecticut and the apples from South Carolina, while the other fruits were gathered from all quarters between.

Supporting Gladiolus Bulbs.

A correspondent of the *Country Gentleman* prepares supports for his flowers as follows: "I take inch boards and slit them up into strips 1 inch square and 30 inches long. These are planed and cornered nearly 8 square, and sharpened at one

end, tapering them back 6 inches that they may set firmly in the soil. Then I cut slats in the upper end $\frac{1}{2}$ inch deep and $\frac{3}{8}$ wide. Three stakes are used to a row, one at each end and one in the middle. The slats in the stakes point across the bed over the row. In these slats are placed either a coarse wire or thin strips of wood cut from builder's lath, 4 feet long, and dressed to closely fit into the slats. The sharp corner edges are dressed off to prevent the flower stems chafing in high winds. After the frame is set, each end corner is pierced with a brad-awl and a small nail or wooden pin inserted. When wire is used, each end is turned to form a small eye through which the nail or pin passes. If the bulbs are planted so that the eyes which form a line across the bulb are in line with the row, the flower stems may be very evenly distributed and tied along this horizontal bar and give a very pleasing effect, at least so it seemed to us last season.

"The gladiolus should be so planted that the dwarf varieties are not mingled with the tall growing kinds, and the early separated from the late. Of course this will suggest frames of different heights to accommodate different habits."

Raspberries. Cultivation and Value as a Market Crop.

The following is a short abstract of a discussion before the Oshkosh, Wisconsin, Horticultural Society :

Mr. J. Brainard said, that as the subject had been adopted at his request, he would state that his reason for it was, his having ascertained that several parties in and around the city, who, some three years ago, went into the cultivation of raspberries as a market crop, were plowing them up, and if they were not acting thus because of their unprofitableness, he wanted to know it before he proceeds to plant out more extensively. Would like to hear from our president as to his experience with this fruit.

Judge Washburn replied, that so far as his experience went, he thought they more than paid for their cultivation.

Mr. J. Brainard.—The average wholesale price, last season, was less by six cents per quart than the year preceding, and when we reckon the extra expense of cultivation and picking, I do not think they will pay like strawberries.

Mr. T. Payne.—If raspberries do not fetch more than 12c. at wholesale price next year, I shall plow mine up, if I have to raise potatoes in their place. I would rather raise strawberries at 10c. per quart than raspberries at 20c.

G. W. Washburn.—Is it really so much more expensive to raise raspberries than strawberries?

J. H. Osborn.—Yes.

T. Payne.—That is my experience, and then they are very much harder to pick.

J. Brainard.—And we have to pay our pickers just twice as much per quart for picking.

J. H. Osborn.—Is the red raspberry any more profitable than the black cap?

G. W. Washburn.—I should think so, judging from what I have heard to-night.

W. L. Stroud.—The great objection to the red raspberry, is that it suckers so badly.

J. H. Osborn.—This objection applies especially to the Antwerp. I think that the Philadelphia will prove to be the most profitable. It is a prolific bearer; does not sucker badly, is not as soft as the Purple Cane; and is a splendid berry for jelly or jam.

J. Brainard.—They are not so easy to pick as the Antwerp, and I would like to know whether the red would sell as well as the black, provided the supply was equal.

I. J. Hoile.—The demand for red raspberries has always been greater than the supply in this market, hence they have commanded a higher price; but if the supply should at any time be as large as that of the black caps, the price would, in all probability, be largely reduced, and it is doubtful whether they would then sell as readily for table use as the black cap.

W. L. Stroud.—What has been the experience of gentlemen present, with the Mammoth Cluster.

T. Payne.—I regard it as a first-class variety.

J. H. Osborn.—If the Doolittle black cap is properly cultivated, there is, in my opinion, very little difference between them.

J. Brainard.—I think the Mammoth Cluster is very far superior to the black cap, but I give the preference to the Davidson's Thornless. Myself and brothers propose to plant half an acre of them next spring, and if they should bear only half as well as did the few plants we had last season, we shall certainly plow up all our Doolittle's and substitute Davidson's Thornless.

W. L. Stroud.—I think the Red Antwerp would pay well to cultivate by the acre if properly cared for.

J. H. Osborn.—I would like to enquire of Mr. Brainard, how many quarts of Doolittle's he could raise to the acre?

J. Brainard.—From five-eighths of an acre I raised 1,500 quarts last year; it is my impression, that with proper cultivation, they will yield 3,000 quarts to the acre.

W. L. Stroud.—In order to do this the plants must be heavily manured,

I. J. Hoile.—Yes; and thoroughly mulched.

J. Brainard.—I regard mulching as indispensable.

G. W. Washburn.—I have never cultivated the black raspberries, and do not propose to do so; but I have an acre of the Red Antwerp, and I think they will pay for cultivating. I also think a great deal of the Brinkle's Orange, especially for family use.

J. H. Osborn.—For richness of flavor the Brinkle's Orange most decidedly surpasses all other raspberries.

W. L. Stroud.—But they do not yield well, and hence are not profitable as a market berry.

G. W. Washburn.—The most tasteless and worthless of all raspberries is the Belle de Fontenay.

J. Brainard.—I endorse that opinion. I would like to know whether there is any more risk in fall than in spring trimming.

I. J. Hoile.—Not any more; and the advantage of fall pruning is, that time is saved by so doing, for their spring work.

T. Payne.—Any time after fruiting will do, and I would rather trim when opportunity serves in the fall, than defer it until spring.

Catalogue of Green House Boilers.

A very fine Catalogue of Boilers and Green House material has been issued by Hitchings & Co., 158 Crosby st., this city, containing 46 pages of handsomely illustrated plans and designs, for all necessary fixtures. It is much the finest we have ever seen, and will be of use to every one about to build a new conservatory.

The Practical Poultry Keeper.

The public have been favored, within the past two years, with two separate editions of the above work, by as many different publishers. A fact has since come to our notice that will, when generally known, interfere seriously with its reputation, as well as damage its reliability. It is this: Mr. L. Wright, in his concluding chapters, devotes considerable space to an account of a remarkable poultry establishment at "Charny, a picturesque village near Paris," wherein are to be found 1,200 laying hens with a due proportion of cocks, lodged in the first floor of an elaborate building, with a verandah, railway, lifting tackle, boiler, stoves, hatching rooms &c. There are some ten or a dozen engravings, and Mr. Wright most innocently informs his readers that it is the most perfect thing of the kind in France, and has been conducted for several years with complete success.

Here is the result. An English capitalist, after reading this account, determined to

go into the hen business, and went over to Paris expressly to visit this famous poultry establishment,—on arriving at Paris he tried to hire a conveyance to *Charny*, but no one knew the place. The Geographical Dictionary gave him no aid. He gained access to the Minister of Agriculture, but his inquiries elicited only a smile, but no definite information. He ascertained the name and address of the author, inquired of him the way to Charny, and other particulars concerning this successful establishment, and to his astonishment received this reply: “*Monsieur, c'est imagination,*” or in American vernacular, “all in your eye.” What a beautiful volume, then, to foist off on American readers. After this exposure, what further confidence can we place in it?

Editorial Notices.

Agricultural Excursion to the West.

Editors love a little freedom during the summer, especially when they can combine pleasure, instruction and business in one grand rural excursion. Such an one, of more than usual prominence, left New York on the 18th of July, for a westward flight to the Rocky mountains. Their route includes the Mammoth Cave, Ky., city of St. Louis, a reception at Leavenworth, Kansas, a ride by rail through the richest of the Kansas river valleys, and a tour from Denver, of two weeks, through the parks and mountains of Colorado and the Rocky mountains—a visit to the new settlements of Longmont and Greeley, as well as a trip to Cheyenne, Laramie, and by special train on the Union Pacific railway, through Nebraska to Omaha, and thence down the Missouri river to St. Louis, are incidental features. The object of the editors is to obtain reliable personal information about the agriculture and resources of the far west, and publish the same in their respective journals. Such trips always accomplish great good.

The following is a list of the members of the party:

Henry T. Williams, Agricultural Editor N. Y. Independent; Editor N. Y. Horticulturist.

J. B. Lyman and wife, Agricultural Editor N. Y. Tribune.

S. R. Wells and wife, Editor Phrenological Journal.

F. D. Curtis and wife, Agricultural Editor N. Y. Republican.

X. A. Willard, Dairy Editor Rural New Yorker.

A. B. Crandell, Agricultural Editor N. Y. World.

Mrs. S. O. Johnson, Correspondent Country Gentleman.

B. K. Bliss and son, Representatives of The Rural Club, N. Y.

J. R. Dodge, C. R. Dodge, Representatives U. S. Department of Agriculture, Washington, D. C.

G. M. Tucker, Editor Country Gentleman.

G. W. Brown, Correspondent Norwich Advertiser.

R. P. Eaton, Editor N. E. Farmer.

Thomas Meehan, Agricultural Editor Philadelphia Press; Editor Gardener's Monthly.

H. L. Reade, E. Cor. Prairie Farmer.

William Clift, American Agriculturist.

John F. Keily and wife, N. Y. Commercial Advertiser.

C. O. Green and wife, Correspondent Troy Times.

George S. Noyes, Editor Mass. Ploughman.

W. M. Canby, Correspondent Germantown Telegraph.

Josiah Hooper, Correspondent Del. Tribune; Rep. Pennsylvania Horticultural Society.

George S. Bowen and wife, Correspondent Chicago Bureau.

J. G. Kingsbury, Editor N. W. Farmer.

The party return August 22. The combined circulation of the respective papers represented is *one million copies*, very significant as to the influence of the party.

Strawberries in Ohio.

The varieties of strawberries named in your notes in the April number, with the exception of the Lady of the Lake, have yielded to me, personally, twice as much money, and in some instances considerably more than the same number of bushels of Wilson; but the Boyden, Fillmore, Green Prolific, if carelessly handled, may not prove profitable at all. Several growers have, the last two seasons, realized for their Agriculturists and Triumph de Gands thirty-five cents per quart for all they could furnish, while the very best Wilson's brought no more than ten to fifteen cents at the same time. I have sold the Green Prolific, French, Fillmore, Barnes, Boyden, at from twenty to fifty cents, and had to be satisfied with ten cents for Wilson. The latter is not my favorite, and does not pay me as well as other kinds do if they are properly attended to, but it is sure to give more satisfaction to a large class of growers who raise clover and strawberries in the same patch, and who ship their fruit in bushel drawers to market.

The President Wilder, with me, is a good berry, but will not stand our climate as far as it has been tested. I took pains to inquire from the different parties who received plants, and not one of them, as far as I could ascertain, have had any good luck with them, every one having less plants in the fall than in the spring or summer. Dr. Warder and other prominent men saw the American and the foreign Wilder on my place last year, at the same time, and the former was sunburned at the time. The foreign variety did not do as badly as the American. It is a beautiful berry, very firm; and one of the latest in my large collection.

One point is certain, the firmness of the home variety has been overstated by Tilton & Co., its introducers, and overrated by friend Campbell. Mr. Wilder informed me two years ago that he considered it as firm as the Hovey, and this is correct, as Mr. Wilder's statements usually are, but it does not compare in this regard with the Wilson.

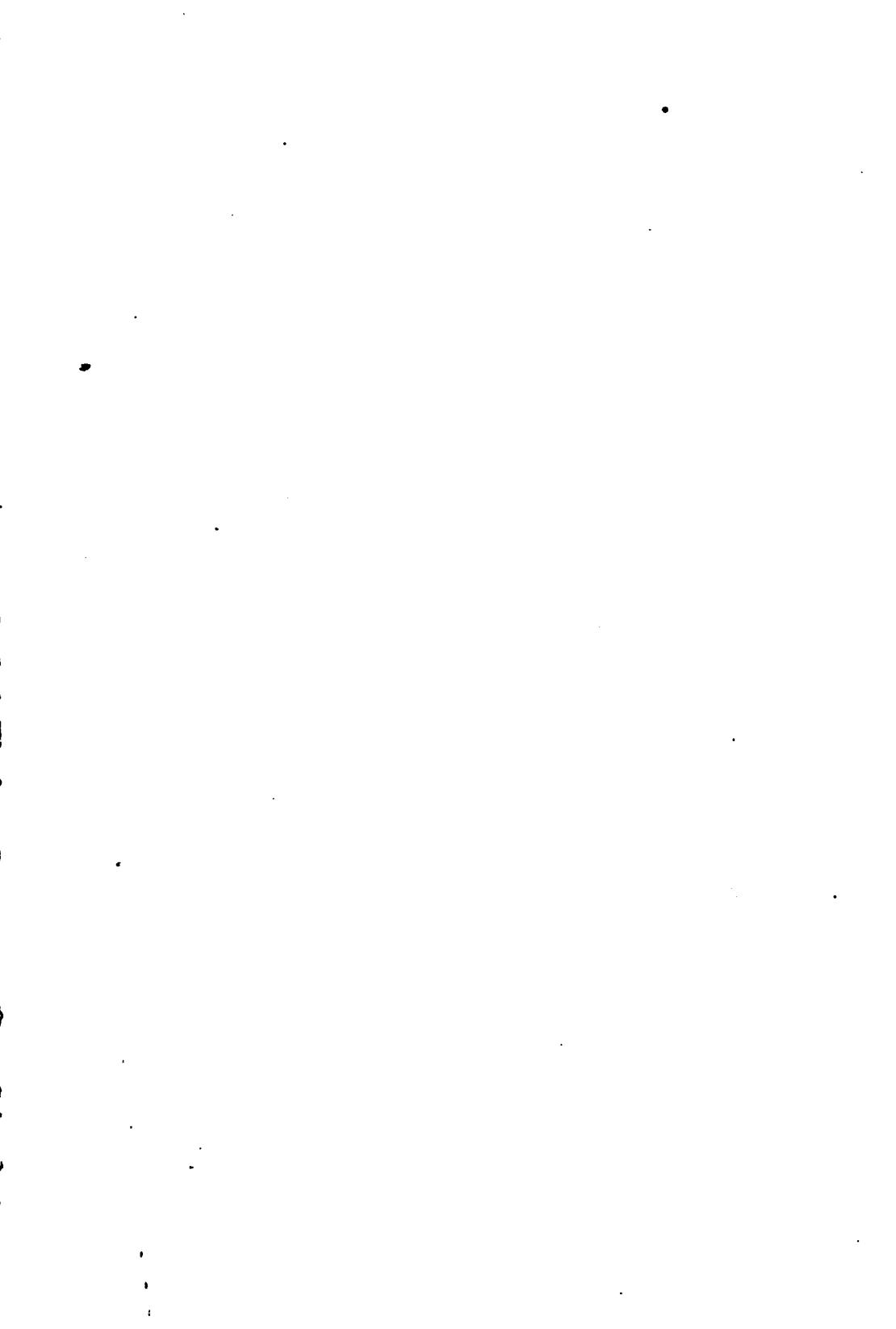
LOUIS RITZ.

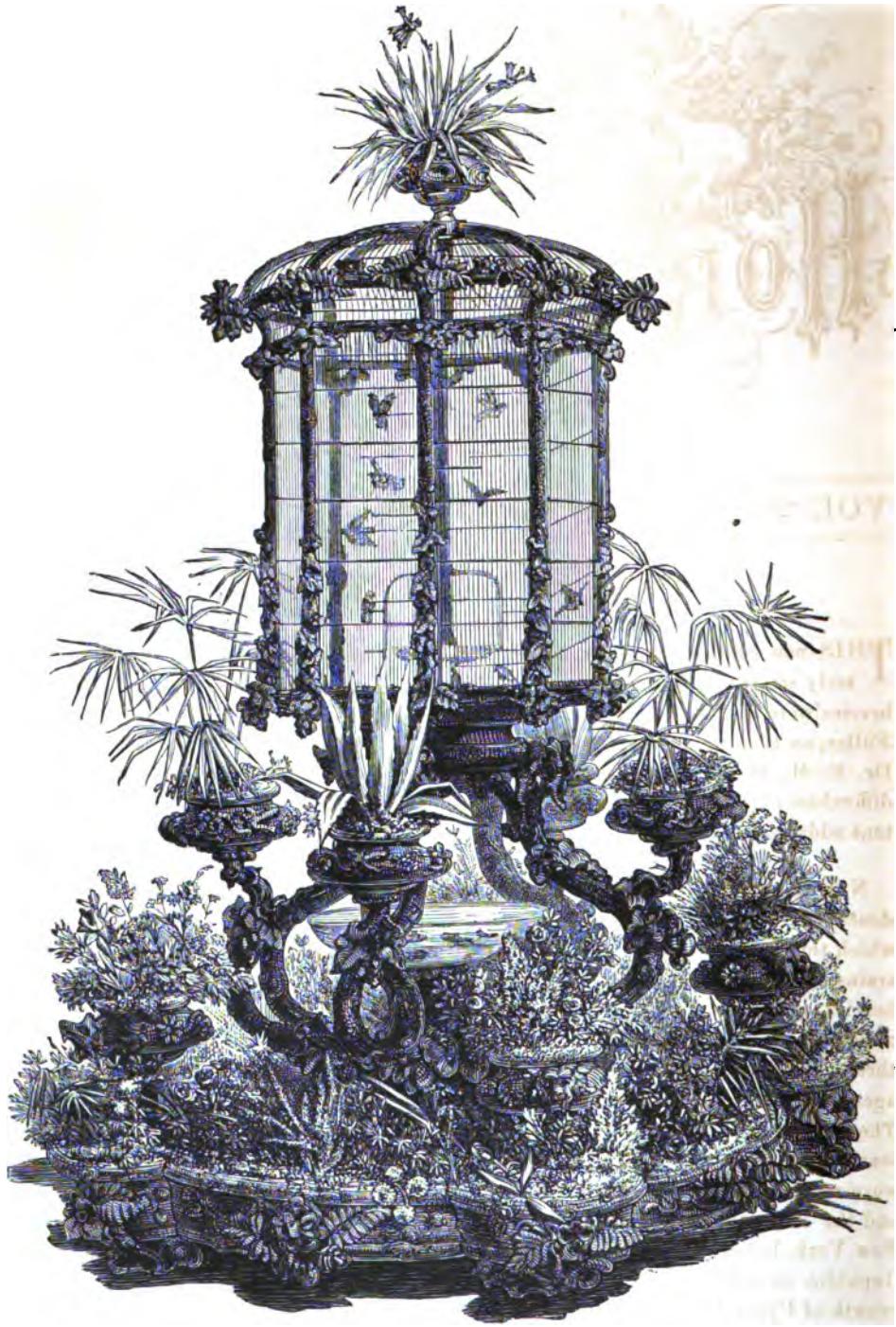
Plainville, O.

Carbolate of Lime for Currant Worms.

A correspondent writes us that this is entirely ineffective in his experience. "At a meeting of a Farmers' Club in this vicinity, held this past year, the subject of diseases of vegetation came up for consideration, and the various remedies for the 'currant worm' were discussed. Hellebore seemed to claim the first place for effectiveness, but one of our townsmen presented the claims of 'carbolate of lime.' A question was asked in reference to its appearance, application, &c., which was answered that it was a powder somewhat resembling hellebore, and could be used the same, when a member present remarked, '*perhaps the worms think it is hellebore.*' I think its effectiveness must be attributed to this cause. The president of the Newton club informs me that they, in discussion, united in pronouncing it 'not sure.' A neighbor of mine has made a thorough trial of it and says, 'if it kills after the worms are three days old, it is by accident,' and from experience with it I am led to conclude that when they first appear (more especially the first crop), it will destroy them, but after they are more fully grown it is ineffective, in fact they sometimes seem to *relish* it than otherwise. So I conclude that the worms have found out that it is *not* hellebore after all. Hellebore loses its strength by exposure, and often times where this fails I think it is from having been kept without proper protection from the air, as it is a sure remedy when good, and yet it is not by any means a dangerous article, because of its poisonous properties evaporating so soon after it comes to the air by application."

A. B.





Bird Cage and Flowers.

THE HORTICULTURIST

EDITED BY
HENRY T. WILLIAMS.

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SEPTEMBER, 1871.

NO. 303.

The Rural Club of New York.

Discussion about Strawberries.

THIS new rural organization, of which Horace Greeley is president, held its quarterly session June 24th, and sat down to an ample collation, after which strawberries were discussed, and many excellent papers and addresses made by Andrew S. Fuller, on the origin of the strawberry; Mr. J. B. Lyman, on the strawberry market; Dr. F. M. Hexamer, on culture and varieties; and Henry T. Williams, upon the difficulties of strawberry growing. We present condensed notes of the most important addresses:

Address of J. B. Lyman.

NEW YORK AS A STRAWBERRY MARKET.—I have been astonished at the evidences of enormous growth in the strawberry business. From the frequency with which this most delicate of fruits is met with on our tables, from the length of fruit trains and the number and size of coasting vessels engaged in the transport of strawberries, we have supposed that the business had largely increased. But a day spent among the commission men along our wharves has convinced me that we have now three great national fruits, the traffic in which must be reckoned by millions of packages, and the proceeds from which make handsome incomes for thousands of farmers. These great fruits are the strawberry, the peach, and the apple. The strawberry season now covers one-fourth of the year. On the 10th of April 560 packages of berries were received by the Charleston steamer. Last year the shipments from Rochester, and the cool, late clay lands of Wayne and St. Lawrence and Niagara counties in New York, lasted till the 20th of July. Beginning at the southern margin of the Republic, on soils warmed by mellow airs from the Lower Gulf, and closing with the growth of Upper Canada, the extremes of the season take in a hundred days. But in a commercial sense the business commences its upward grade on the middle of

April, continues to wax and wax till the 10th or 15th of May, and then holds its way on a table-land of perpetual demand and supply till the 20th to 25th of June, when it enters on a down grade, which falls off quite rapidly till the middle of July, when strawberry time is over. Charleston has begun the work of making April a full strawberry month. By another year our receipts from that coast will number thousands of crates. There is more profit in extending the season at this end than from pushing it into July. In April it comes in competition with nothing but the cranberry. In July and the last quarter of June it keeps up a brave contest with the raspberry, with currants, with cherries and Arkansas plums, with early blackberries and with Carolina peaches. Yet it dies game, for well in July such berries, as Dr. Hexamer shows us, will command fifty cents a quart, when the finest raspberries are slow at fifteen. About the first of June there often occurs that curious phenomena, that crisis in demand and supply which the marketmen call a glut. There are probably 200,000 of our population that eat strawberries about as often as they eat fresh figs, yet while streets and wards full of the poor are languishing and growing sick for want of a varied and generous diet, a pint of berries will sometimes sell on the tip of this island for one cent. The last large glut happened two years ago, on the 8th of June, 1869, and this is the description of it in the language of the market:

"This is the greatest day ever known in the strawberry line, so far as receipts go. The New Jersey Road alone brought in twenty-eight car loads, besides two expressed loads and thousands of crates by boats. Never before were so many berries carried over as remained unsold to-night. Besides the enormous receipts, the weather has been unfavorable. In such a glut the peddler boys usually go in heavy, and help the dealers out, but the showers of to-day interfered with them. Norfolk berries are over. The stock to-day was half Jersey, the other half from Maryland and Delaware. It is impossible to give any fixed quotations, prices varying from twenty cents for fine to ten for medium. The sales of one dealer are a fair sample: thirty-three crates Wilson, hulls on, at twenty, soon after same berry sold at sixteen—then fifteen; then, as they were in danger of going over, ten cents. Yet he carried a stock over. Small baskets of hulled berries, four to a quart, sold at two and three cents, and some at one cent." Yet seven days later we find Extra Wilson's selling at twenty-five cents per quart, and Fancy Jucunda, Barnes and Agriculturist, commanding twenty to twenty-five cents per pint. So, within a week, we find small berries selling at two cents a pint, and berries such as these worth twenty-five, the former a slow sale and the latter eagerly sought. Sometimes bitter things have been said of the cupidity and heartlessness of hucksters who would throw crates of delicious fruits into New York harbor rather than lower the demand or allow a plethora to have its legitimate effect in forcing down the price. Most of those strictures are unjust. I find the truth of the old saw is perfectly understood on our wharves—

The worth of a thing
Is what it will bring.

The real cause of a glut is not overproduction; it is large arrivals of fruit unfit for shipment to Northern towns. For instance, two days of moist and hot weather will

fling 10,000 crates of Delaware and Jersey berries on our wharves. We can consume 5,000 in the usual course of trade, the other 5,000 should be shipped up the Hudson, on the Fall River line, up Erie and toward Hartford, Springfield, and Worcester, some should go to Portland, and Montreal would appreciate two or three score crates. But the moist, dog-day weather sours the berries, shippers are afraid of them, and leave them in first hands. This creates a glut. In short the producer has two elements in his calculations. He may be sure that he is growing for a consuming population of 10,000,000 an article that every individual of those 10,000,000 likes and is willing to pay him for. On the other hand, his product is in the last degree perishable, and if the weather is bad he cannot reach his consumers with a berry which they will buy at any price.

Some of the largest planters of the strawberry are Virginians. In 1866 Norfolk sent us about 100 crates a week for three weeks. Now Norfolk sends 10,000 crates a week by water, and 8,000 a week by car. The Norfolk berry is mostly Wilson, of medium size, and in gross sales at New York commands twenty cents. This means from fifteen cents to seventeen cents to the grower, and from twenty-five cents to thirty cents from the consumer.

For instance, E. Anderson's account, as shown me by his merchant, runs thus on one shipment: The gross sales were \$3,447; on another, the next week, \$4,078; next, \$5,608; then, \$1,101; total, \$14,234; in all as gross sales in New York, beside as much more sold in Boston, Baltimore and Philadelphia. He has thirty-five acres in strawberries. There are four or five growers near Norfolk that produce about the same as Anderson, and twenty that have from ten to fourteen acres of fruit and a score or more who have from one to three acres.

A review of the strawberry market for 1871, has brought me to these conclusions:

First: The strawberry business is *not* overdone, and is not in a way to be. The demand races neck and neck beside the supply, and often shows a clear length ahead. The more people eat strawberries the better they like them. Some restaurants consume from 600 to 1,000 quarts daily.

Lastly: There is satisfaction and profit for any small fruit culturist in any part of the country not too remote from cities in growing choice berries. By choice berries we mean large berries. Wilson's, as big as the tip of a lady's finger, will seldom bring the grower above twenty and generally not over fifteen cents a quart. But any quart of firm berries, the smallest of which are as large as the end of a man's thumb, may be sold at from thirty to fifty cents at any time from the middle of April to the middle of July. There is more profit to-day in producing such berries as we are eating to-night than in any other branch of small fruit culture. All the commission men say they would prefer to receive and dispose of 500 crates of extra large rather than 100 crates of mediums.

Dr. Hexamer's Address.

"Which is the best strawberry?" This is a question every fruit grower is asked a thousand times, and it is a question that is as difficult to answer as it would be difficult to answer which is the best potato, the best breed of horses or the best breed

of cows. It depends entirely upon what you want to use them for. If you understand, by the *best* strawberry, the variety that is best suited to the greatest variety of soil or the largest area of country, or best for market purposes, that will do best in all climes and in all soils, I say there is no such strawberry. It can never be attained. We can never reach perfection, neither in strawberries nor anything else; but when I am asked which variety comes nearest to this, I say unhesitatingly the Wilson. If we divide this question and say which is the best variety for market purposes, and which is the best for the amateur, then I say, *positively*, the Wilson, for market. The Wilson succeeds best under the largest extent of soil in different climates, and is hard enough for market, though it lacks quality. It is sour, but this makes very little difference in market. In the New York market strawberries are not bought for their flavor, but for their looks. If the berry is hard and large enough it will sell in market as a first-rate market berry, and as such the Wilson certainly comes into the very first place. When I am asked which is the best variety for general purposes, for home use or a near market, I say the *Charles Downing*. It comes nearly up to the Wilson as a market berry, and it may in time equal it. The quality is decidedly better than that of the Wilson. All that it is inferior to the Wilson in, is the productiveness; but in size and in firmness it is up to the Wilson. It is large, fine, and in appearance a much better quality than the Wilson. When a single variety is wanted, I say take the Charles Downing. This variety grows well under any variety of cultivation. It grows well in hills and in beds. Very few varieties do this, and therefore this is very valuable.

But one variety to grow is not enough, for it gives you a very short season. One variety is not more than from ten to twelve days; when, by having a selection of varieties, we can extend the season to two or three weeks. One should, if he values strawberries for his own use, plant not less than three varieties. Then, again, we have to make a division as to the soils. When three varieties of strawberry are wanted for market, to be grown on a light sandy soil, for early fruit, the *Downer*; for medium, the *Wilson*; for late, the *Green Prolific*. None of these varieties are strictly first class in quality and for market. They are good, and for a near market the very best that can be raised. For the main crop the Wilson, as I said before, will give the largest yield. It is not a prime quality for holding out a long time, but it gives a good medium sized berry and a very showy berry. The Green Prolific is poorer when grown from clay lands, but when it does succeed it is a very valuable variety.

The three best varieties for clay lands are (1) the *Nicanor*, which, under equal circumstances, succeeds better on clay lands than anywhere else. The berries are of medium size, but the quality is decidedly better than the Downer; yet they do not hold out long. Three or four pickings finish all the large berries; but as they come in so rapidly, they form a valuable variety. For late varieties on clays I would take the *Triomphe de Gand* and the *Jucunda*. For the northern States, these two varieties are the principal market varieties; and I differ slightly from my friend Lyman when he says there is no profit in extending the length of the season. Next week is the time for strawberries in New York. You can get, next week, double

the price that you could get for the last four or five weeks. The season this year is peculiar, and different from all seasons that I have seen. That is, the strawberry season is exceedingly short. The season at our farm has not been longer than two weeks, when ordinarily it is three and three and a half weeks. So I will have to make an allowance for this. The Triomphe de Gand is the very best market variety. It is the handsomest, and much harder than any other variety. The Jucunda is its rival; not quite as hard, but somewhat larger, of better shape, and of the very finest appearance. There is one peculiarity about them. In some seasons the Jucunda will do better than the Triomphe. They are very similar in their characteristics. They ripen about the same time. The Agriculturist is a market variety that has been considered a first-class variety, but I am confident that it will soon run out, for it has not held its own. It was harder and better at first than it is now. The quality was never very good, but it seems to grow softer.

This is the list of principal market varieties. There are several other varieties, but it is not well to raise many varieties for market—it is better to confine yourself to one or two varieties. Then the grower can get a reputation for a certain variety. They will command a much better price. Some of these varieties are also very good for the amateur, that is, for one's own use; and the main distinction between a market variety and an amateur variety is simply the firmness. If our large berries of good quality were hard they would be market varieties, but, unfortunately, many of our very best strawberries are not hard. In the amateur list I would place for early the *Brooklyn Scarlet* as the very best early variety. It is not very prolific, and not hard enough for market; but in quality it is not exceeded by any other variety. It comes in with the very earliest berries we have. For a medium crop I will take the same varieties we mentioned in the market varieties, because we have none better than those; but for late we have some varieties of exceedingly good quality, which are too soft to be shipped. One of the very best varieties is the *Napoleon Third*. It is hardly surpassed by any other variety. It lacks high flavor; but, nevertheless, it is so juicy and luscious that I put it in the very first rank of amateur berries. It continues much longer than the Triomphe and the Jucunda, and bears very large crops, and all the berries are of a large, uniform size. If it was as hard as the Triomphe I would put it first in the list of strawberries. The very best flavored strawberry that I know of, is the *Lennigs White*. It has the flavor of a pineapple. It is not very prolific, but it is indispensable in the collection of any lover of strawberries. It keeps its flavor better than any other variety.

A late variety is the Kentucky. It is hardy, very prolific, and may, if it holds its own, become a valuable variety; but it takes many years to decide about the value of any one variety.

A variety that is too much neglected in the amateur's garden is the *Alpine*. They are small, to be sure, but the quality is very good. They have the real strawberry flavor, and as they are picked without hulls great trouble is saved. In my judgment they are as good a variety as we have.

It was said this evening, one should be afraid to speak of strawberries, the subject is so old; but it is no hackneyed subject to say the sun rises, although one may see

it rise every day, and it is no hackneyed subject when one sees the buds in the spring time. It should be taken into consideration that we must strive for improvement, not only from year to year, but from time to time. If we come hear and learn something new about strawberries, we have gained something. It is little by little that we increase our knowledge; so to come together and talk about strawberries is not, after all, so very unimportant and trivial a subject. [Applause.]

Address of Henry T. Williams.

The chairman called upon Henry T. Williams, as the next speaker, who responded as follows:

"It is four years now since I purchased my farm at Dover, Del., and within that time little Delaware has come up in the estimation of the people as a pretty important State for peaches, strawberries, and small fruits. I have gathered some statistics about the strawberry crop of Delaware. The amount shipped from Norfolk, Va., to New York, is 1,500,000 quarts; from Delaware Peninsula, 3,000,000 quarts. The strawberry trade from New Jersey, including those sent to Philadelphia and New York markets, reaches nearly 2,000,000 quarts, and the strawberries raised on the Hudson river, and sent to this city and Boston, amount to 1,000,000 or 2,000,000 quarts more. So we have an aggregate of berries raised within a reach of 500 miles of 7,000,000 to 10,000,000 of quarts yearly for three or four markets only.

"Strawberry culture is not overdone; but there are a great many peculiarities and difficulties to be overcome; growers need, more than anything else, better transportation and the earlier arrival of trains. During the four years that I have raised strawberries, I frequently lose a large portion of my fruit, from no other cause than the arrival of the trains too late for market. One day this season the shipment to New York reached 256,000 quarts, but the train arrived one hour too late. And the decline in price created a loss to the growers of fully \$15,000. If one hour, or one day, does that, what must the aggregate be for the season? My loss during the season was \$300. The commission men tell me: 'If you will all get your fruit here by four o'clock in the morning, even if you have 300,000 quarts, we can always work them off. The grocers of the city get impatient at the delay of the train, and when the first dray-load appears on the scene they snap off one crate, and off they go. If there was plenty of time they would select two or three. Hence, the grocerymen don't purchase the fruit in sufficient quantities, and take no pains to stimulate the sale.' If plenty of time was allowed in the market, 50 to 100 per cent more fruit could be worked off, at still better prices.

"Mr. Lyman has referred to Norfolk, Va., as the best section to grow strawberries for the New York market. Yet, Norfolk fruit has its disadvantages. Last year there was a serious glut of this fruit, and the season was generally discouraging. The Norfolk grower has to pick his fruit all day to-day, say. Then he brings it into the depot, where it is to be shipped to-night, and it is twenty-four hours in reaching New York. You will see that it is two days old from the time it is picked until it reaches the New York market. Hence, it is unfit for shipment. Now, a very large proportion of the strawberries received here are reshipped to Northern and Eastern

cities. One dealer alone buying from 100 to 200 crates per day. As long as the weather is cool, this Norfolk fruit is fit to ship, but the moment rains come, or warm weather appears, the berries rot and wilt, and can be sold only to the street peddlers. So that often a large arrival of Norfolk fruit has a glut of itself, and must be sacrificed. A moderate quantity will always have a good sale. This year they have had a splendid time. Their fruit has not fallen below twenty cents, and they had good two weeks before Delaware fruit arrived. The weather was cool and dry—no rain. But when Delaware fruit arrives, the Norfolk fruit is closed out at any price. And Delawares have a splendid run. My fruit brought thirty cents steadily, while Norfolks could not rise above twenty. The difference is, that our fruit being one day fresher, is in better demand for shipping, and brings a better price.

"The system of growing small fruits in Delaware, and marketing them, is working up into fine railroad and shipping facilities. Two strawberry trains run during the height of the season; one at the lower end of the road, and the other at the upper; both connect together at Gray's Ferry, and proceed to New York on express time. I have traveled on it at the rate of thirty miles per hour.

"But it often happens, that when there are the biggest pickings and shipments, the train is late, and next morning there is a fearful glut. This glut is not one of over-supply alone, but because of late arrival after the market hour is over. This late train business is doing more to endanger the strawberry trade than all things else put together.

"With regard to *culture and profit*, after an experience of four years, I must candidly say, that there is no business under the sun that takes so much capital, and is attended with so much risk, so much labor, and that gives so little satisfaction, as strawberry culture. There is one fact in regard to seedling strawberries. There is a rage every now and then for new fruit. It gets a big price, and figures in the papers. I have been familiar with this system, and think that the seedling strawberries, as a rule, are successful only in the localities where they originate. I have tried forty or fifty kinds of strawberries, and I can grow only one—the Wilson; and that has its faults. The first year it is fine, the second year a little medium, and the third year they will hardly bear inspection. In regard to the cost and profit: It has cost me \$500 to every acre to lay out my strawberry bed, and it takes a capital of \$150 to every acre for crates and baskets alone. I am satisfied if I can clear \$100 to an acre. It hardly pays for the capital invested, but still it is profitable.

"There is a fact with regard to strawberries that has not been noticed here to-night—that is, mulching the ground. Four or five years ago nobody thought of mulching his ground. Now every one does it. What is the result? We are having better fruit. It is rather the exception to see sandy fruit in the market, where formerly it was the rule. The strawberry growers suffer from varying seasons. Last year I had to pick every day in the rain; it arrived to market in the rain, and it was rainy all the season. This year we have not had a drop of rain, and the fruit is small, as well as very inferior in quality. That accounts for the fact, that so many of the strawberries this year are not fit to be eaten. The Norfolk, Delaware, and Jersey growers have made money. In my opinion, the best place to grow strawberries is not alone

in Delaware, Jersey, or Norfolk, but right along here on Long Island Sound, from Bridgeport toward Boston. Some strawberries that we raised in Delaware, and sold here for thirty cents a quart, were reshipped to Boston, and sold there for fifty to ninety-five cents.

"I have only to conclude by stating, that, in order to make a small fruit-farm pay its way, you must have everything complete in it, from beginning to end. You must grow your own produce. Every man should raise his own potatoes, and his garden vegetables—everything for his own support. Then you must make your own fertilizers; your own compost heaps, and do some farming as well as fruit-growing, so as to be sure of your daily bread. The future of strawberry culture is promising. I think it is to be more profitable; but the railroad companies must do their work better. The strawberry growers must understand more than ever the difficulties of their position; I think there are to be but few more gluts; there may be once in the course of the season. I am always glad when I hear of a glut, for I know that I can get a good price for my fruit to-morrow."

Mr. Fuller related his experience with the Brooklyn Scarlet. In 1862, he determined to kill out the trees in his Brooklyn garden, and plant strawberries. There was then no strawberry trade of any importance around the city of New York, excepting the wild Jersey strawberries. He commenced to plant and talk strawberry. Before that time he never had calls for 8,000 plants in a season. In less than two years from the time he commenced talking strawberry he sold 600,000 plants. He believed that the talk of a half dozen men in this country raised that strawberry trade up from what it was then to what it is now. Now everybody is supplied, and it is pleasant to know there are now times when, in the city of New York, the poorest child can get a dish of strawberries.

In reply to a question by the chairman, as to whether he had ever known a single strawberry plant to produce more than one stem, Dr. Hexamer replied, that some varieties will always produce two; that is, they will branch out and will be a mass or collection of single plants. Wherever I have seen strawberry plants greatly stimulated they have lost their flavor. A bed that illustrates this point had an open ditch all around it, and was drained besides.

Mr. Quinn rose to answer a question about the President Wilder strawberry. It had thoroughly disappointed him. It hugs the ground so much it is almost impossible to mulch it. It was not so firm as he supposed it to be. Mr. Quinn spoke of the Boyden No. 80. At his place in Newark, it was one of the most promising of the new berries. The present season he could dump them upside down, and he didn't believe there would be five bruised berries. He had no difficulty in getting thirty to thirty-two cents for it in market.

Matilda Strawberry.

EEDITOR OF THE HORTICULTURIST: In the June number of your paper you speak unfavorably of the Matilda Strawberry, which originated with O. J. Tillson of Highland, N. Y. You also quote A. S. Fuller as saying that "it is splendid in every respect except quality." Having visited Mr. Tillson's grounds when the

fruit was in perfection, I had a good opportunity to examine them, and differ with Mr. Fuller and yourself as to quality. To my taste they are of the class very good or best, and compare very favorably with the newer varieties, such as Seth Boyden, President Wilder, Chas. Downing, etc., and being large, productive, good color and quite firm, they promise well at least. At my request Mr. Tillson has furnished me with a statement of prices as compared with the Wilson, and taken from the commission merchants' bill in New York, which please insert.

	Matilda per qt.	Wilson per qt.
June 8.....	45 cents.....	24 cents.
10.....	36 "	22 "
14.....	21 "	16 "
15.....	15 "	10 "
17.....	27 "	20 "
20.....	27 "	18 "
21.....	24 "	18 "
22.....	24 "	16 "
23.....	24 "	15 "
24.....	24 "	18 "
27.....	30 "	18 "

You will see by this statement they average a little more than one-third more per quart than Wilson.

CHAS. DOWNING.

Editor's Note.—Mr. Downing must not think that our opinion is a prejudiced or unfair one with regard to the Matilda Strawberry. It has been exhibited two years in succession at New York, and at each time the judges declined to give it a premium because of its flavor, which was not agreeable. There is no accounting for taste, but when such judges as Prof. Thurber, Andrew S. Fuller, P. T. Quinn, as well as the Editor of THE HORTICULTURIST, are unfavorably impressed with it, there must be some grounds for the statements made on page 183, June HORTICULTURIST. A fruit exhibited by itself may seem without objection, but when exhibited in competition with forty others of good flavor the case is very different, and the comparison often appears unfavorable.

Mulching Blackberry Beds.

WE had never heard or seen an instance where a grower had mulched his blackberries for any length of time until we met a case near New Brunswick, N. J., last June. The proprietor planted an exact acre of Lawton blackberries four years ago, scattered a ton of bone meal over the ground, and then mulched the soil from beginning to end, four inches deep with shavings, salt hay and chopped corn stalks. He has never been troubled with weeds to any great extent, comparatively few suckers have sprung up since in the line of the rows; and he has never bestowed a dollar in cultivation. The result is that he has always realized a large amount of fruit yearly, and it has been uniformly double in size of same kind of fruit grown on land not so mulched.

Most of our Southern fruit-growers know that they are liable to have droughts during the blackberry picking season, sometimes only short, at others very severe and prolonged, and cutting short the size of the fruit very materially. The plan of heavy mulching is the only one we have yet seen which will remedy the difficulty. Irrigation is good but costly, unless supplied from a reservoir at a greater height. Mulching thus accomplishes a double purpose: it doubles the size and market value of the fruit, and saves the labor of cultivation.

Grape Culture.

A T a meeting of the Middlesex County Agricultural Society, Capt. John B. Moore gave the following account of his experience in planting vines and raising grapes:

Aspect of the lot, a very slight inclination to the south; soil, light sandy loam, underlaid with a hard red gravel, full of cobble stones. In the year 1864 the wood was cut from the land, which had formerly been used as a rye field for many years, and was composed of a small growth of pitch-pine, white-birch and scrub-oak. After the wood was removed, the land would not have sold for more than \$15 per acre.

The brush was burned and the lot ploughed as well as possible when full of scrub-oak roots and stumps, and then planted for two years, principally with melons and squashes, and manured in the hill only.

In the spring of 1867 I planted on this lot five hundred Concord grape vines one year old from the cutting, which have been trained on large stakes; also two hundred more of the Concords, and two hundred Hartford Prolific vines, which have been trained on a wire trellis. The Hartford Prolific vines were nearly ruined by the last two severe winters; although laid down and covered with soil, the tops came out all right in the spring, but the roots were mostly killed or injured by the severe freezing. I shall be obliged to remove most of them and plant Concords in their places. When these vines were planted, in the spring of 1867, there had not been any manure applied to the soil, except the manure in the hills for melons and squashes, before mentioned, and which is the only manure that has been used on this lot up to the present time, except what I shall mention hereafter, in connection with the strawberries raised between the rows of vines.

At the time of planting the vines, the ground was ploughed, harrowed, and made as fine and level as the remaining stumps and roots would allow, and then carefully planted in straight rows, ten feet apart, and seven from each other in the rows, where stakes were to be used to support the vines; between the rows I planted two rows of strawberries, which were allowed to run into beds. In the spring of 1868, the edges of these beds were trimmed, which left two beds three feet wide with a path on each side of them; from three beds I sold, in 1868, a little over \$400 worth of berries and plants, and the only manure or fertilizer that was applied to them was a lot of ashes from a pile of stumps, gathered from the same lot, burnt, and spread where the strawberries were to be planted, and two hundred pounds of superphosphate of lime sowed in the spring of 1868. In July of the same year, as soon as the crop of strawberries were gathered, the entire beds were ploughed under. Since that time there has been no crop raised between the vines.

These vines have certainly been grown without animal manure, and I might say, almost without any manure; still, I would not have it understood that I would not use any manure, for I certainly should, if in my judgment the vines needed it. What the grape-grower must have to produce the best crop of fruit, is a medium sized, short jointed, solid and well ripened wood; excessive manuring does not give that, but rather a coarse, long jointed, immaturely ripened, soft, spongy wood; the first will produce an abundance of fruit of good quality; the last, less fruit and later in ripen-

ing; perhaps I should say that withholding manure would apply more particularly to the strong growing varieties, such as the Hartford, Concord, Diana, and most of the Rogers.

Five hundred of these vines are trained on stakes, two arms and two stakes to each vine; one arm is coiled around each stake, and spur pruned with rather long spurs, as the two buds nearest the old wood are very often only leaf buds, and would not give fruit. This is the case with the Concord, more particularly than with other sorts. The rest of the vines are on wire trellis, and are intended to spread out as evenly as possible over the trellis; in pruning, I cut out a large portion of the old wood every year, and lay in new canes in its place. From these vines there were gathered one hundred boxes, of forty or more pounds each, or two tons of grapes, which were sold in Boston as soon as gathered, at from twelve to thirteen cents per pound, in bushel boxes, without any particular packing.

I regard the grape as more certain to produce a crop than any other fruit we grow. During the last ten years there have been only two seasons in which the crop has not matured very well under good cultivation, and those (1867 and 1868) were only partial failures. Even in 1868 I averaged as high prices as the present year, although the fruit was not nearly as good in quality. Could that be said of any other fruit? It does not require much, if any manure, which is so much needed for the other crops on the farms; and to be a success it only requires ordinary skill in selecting the soil and planting good, strong, healthy vines, of some well tried variety like the Concord, which is the only kind I have found profitable. I have about exhausted the nurserymen's catalogues, and have been disappointed with many new kinds, coming highly recommended and costing high prices.

A wire trellis, with good posts, well set, and three strands of the best galvanized wire, No. 13 costs about \$3.50 for one hundred feet in length; the same length with stakes would cost according to the size of the stakes; if they cost three cents each with setting, it would be \$1.12 for one hundred feet; if seven cents each, for very large ones, \$2.24 for one hundred feet; it requires much more time and labor to prune, tie and take care of vines on a trellis than on stakes. Which will produce the most or best fruit in the end, is the question to be solved. I have only tried a trellis five years; so far, one is as good as the other, as far as cropping is concerned, with, as I have said before, a great difference in favor of the stakes, in the amount of tying, pruning and care.



How Pears Sell in New York.

In the vicinity of New York there is a large number of old trees of the Bell pear, and they usually bear a crop every year. This variety always meets with a ready sale, early in the season, for shipping to Boston and other Eastern cities, and is more profitable than any other early variety that ripens before the Bartlett for New York market. This goes to prove that persons about starting in the business of pear-growing for profit, would do well, before making out their list, to consult with some of the leading fruit merchants where the crop is to be sold. With the single exception of

the Bell, early varieties of pears ripening before the Bartlett, have not been profitable in our orchard, and for this reason they have been nearly all grafted with other and later kinds. The Bartlett sold readily, even when the price fell to from \$6 to \$8 per barrel, but later in the season the same quality of fruit brought \$16 and \$18 per barrel.

The Doyenne Bosscock, not so well known, sold at from \$5 to \$8 per barrel of two and a-half bushels. This variety is large, showy and of good quality, and is gaining in favor each year.

The Belle Lucrative, a pear of fine quality, of medium size, was a drug in the market, not selling for as much per barrel as the poorest quality of cooking pear. At present it is useless to include this variety in a list for the orchard for New York market. There is no demand for it, unless there is a great scarcity of other kinds.

The Beurre Clairgeau is a popular market variety, its size and color being in its favor. This variety brought higher prices, the past season, than any other kind. When first-class Duchesse were selling for \$12 per barrel, the Clairgeau brought \$18 and \$20. Of course, the quantity of this variety that reaches market is very small, when compared with Bartletts and Duchesse, and it remains to be tested, whether, with a large supply of Clairgeau, the prices will keep in advance of other leading kinds, as happens to be the case for the last half-dozen years. On heavy clay soils that have been thoroughly drained, the Beurre Clairgeau has grown best, and held its foliage much better than when planted in light soil.

The Duchesse d'Angouleme, when well grown, is a favorite sort in New York market, and when carefully put up, finds ready sale at good prices. The fruit of this kind should be carefully thinned when not larger than walnuts. One barrel of large, well shaped fruit will bring more than two barrels of medium or small-sized fruit. This fact is worth carrying into practice, not only with the Duchesse, but with almost every variety grown extensively for market, even with the Seckel. I am of the belief that it will pay the fruit-grower to go over the trees and thin out the fruit.

The Louise Bonne de Jersey is well and favorably known in New York market, and it is safe to plant it when the tree grows freely. In New Jersey and Long Island it is unreliable, and its culture has been given up by most growers on this account.

The Flemish Beauty, once the pride of every pear orchard, is from year to year being worked over in Eastern orchards, with other more reliable market sorts. It cannot be recommended for profit now in any of the Northern or Middle States.

The Beurre Bosc still holds a high position among the choice list for amateur or market purposes. The tree requires age before bearing large crops. It does well in a wide range of territory, and is popular in market. The Urbaniste makes a handsome tree to look at in our orchard. The growth of wood is regular, making a fine pyramidal form. The fruit is only of medium size, without color, and no sale for it in New York. On this point I am thoroughly satisfied, because for seven years past I have sent some of this variety each year to market, and have never sold them for more than from \$3 to \$5 per barrel, and very little demand even at these low figures.

The Seckel is, probably, the most popular pear on the whole list. It always sells even when other varieties are a drug in market. The tree is a slow grower and the fruit small, so that for profit the tree must have age before anything worth speaking of can be realized.

Of Winter varieties the Beurre d'Anjou still takes the lead. Owing to the season, this variety ripened before the Winter fairly set in this year. The fruit is large, colors up well before ripening, and is becoming a favorite among consumers. When young the tree is a shy bearer in our orchard, but this is overcome with age. The Beurre d'Anjou may now be classed as one of the standard early Winter sorts. What we grew this year sold for \$18 per barrel in November.

The Lawrence is of good quality, and surpasses other varieties in its keeping qualities. The fruit is only medium size when well grown, and, unless under high culture, considerable of the crop is likely to run small. The tree makes a rapid and irregular growth of wood, and needs early attention to keep it in shape. The Lawrence brought from \$8 to \$10 per barrel, in quantity, last Fall. Like other varieties, they ripened a month before their usual season, and growers were compelled to sell in October and November.

The Vicar of Winkfield bore a large crop of fruit the past year. Early in the season growers feared, owing to the abundant crop of apples, that Vicars of Winkfield would not bring anything in market. However, almost everybody was favorably disappointed at the prices. We sold ours at from \$9 to \$10 per barrel, at a time when choice apples, carefully packed, were worth only \$2 per barrel in the same market, and persons who are familiar with fruit-culture, are well aware of the fact, that a barrel of marketable Vicar pears can be produced on less surface and at less expense than a barrel of Northern Spy apples.

Those about to plant pear trees with a view to profit, should make a careful canvass before selecting a list of varieties for orchard-planting.

In another article on this subject I will have something to say about some of the new varieties.—*N. Y. Tribune.*

Summer Pruning as an Aid to Fruitfulness.

BY P. T. QUEEN, IN "*N. Y. TRIBUNE.*"

In all well-managed orchards, an intelligently directed pruning-knife plays an important part while the trees are young. I am not an advocate of an indiscriminate slashing of large limbs of fruit trees, simply on the ground that all trees are better for being pruned. This is one of the branches of fruit growing where unskilled or untrained labor should not take part; better no pruning, than ignorant butchery of any kind of fruit-bearing trees. Those who will take the pains to examine a young twig or branch of a pear tree will find the largest buds nearest the end or top of the branch. If left unpruned (such a branch, the second or third year), the eyes near the base, or lower part of the branch, will become dormant; the tendency of the sap is towards the extreme ends. This goes on from year to year, and when the tree ceases making wood, and fruit spurs are developed, they will be located on the extreme ends of the

branches, where the weight of fruit is likely to weigh down the branches, and they are always in more or less danger of being broken from severe wind storms, and other causes, injuring and disfiguring the trees.

When the young branches are cut back one-half or two-thirds from the time the trees are set in the orchard, and this kept up for six or seven years, always working on the young growth of wood, very different results are brought about. By this simple method, the tree is built up firmly, so to speak, from year to year, the branches made stalky with the eyes well developed, so that when the trees come into bearing, the mass of fruit will be positioned on stout, stocky branches, strong enough to sustain the burden of fruit without risk of breaking the branches. These very desirable features are mainly brought about by what is known as Winter or Spring pruning. There is truth in the old adage that says, "Prune in Winter for wood and Summer for fruit."

Fruit trees planted in deep, rich ground, are likely to continue longer than is necessary for making wood growth, and in such cases it is well to resort to some method which will check this tendency of some varieties to wood, and cause them to produce some fruit at the same time.

I am constantly receiving letters, stating that the trees have been well taken care of, planted in a good soil; but, although in places six to ten years, have borne no fruit, asking for a remedy. Summer pruning, which is quite simple, is mainly practiced to bring about fruitfulness. It consists in shortening-in the young growth of the present year one-half and sometimes two-thirds, with a knife, or the thumb and finger when the growth is fragile. This can be done at any time between the 15th of July and the 10th of August. If shortened-in earlier than the middle of July, it is likely a second growth of wood will start which will not often ripen, and therefore may be injured by the cold weather the following Winter.

When the young growth is pinched back, the sap that would increase the growth by extension is disseminated in the remaining part of the branch, developing the wood buds, and bringing about by artificial means, in a single year, what it would in some cases take five, in the natural way. If the trees are vigorous and inclined to make wood, the tops become compact, excluding free access of air and light, both of which are essential to the growth of perfect specimens of fruit. This surplus growth of wood can be taken out while young, with great rapidity, during the Summer, in going through the trees to shorten the branches that are to be left for fruit-producing.

When a tree grows to a large size, and it is thought necessary to remove a limb of any considerable size, the following Spring a number of suckers will start from around where the branch was cut off. These can all be pulled off during the Summer without causing any injury to the trees.

With apples, when two young branches are growing too close, or may interfere with each other, it is very much better to remove one while young, with the thumb and finger, or pruning knife, instead of waiting three or four years, and then be compelled to use a saw.

In fact, I have found this a safe rule to follow in all my experience in growing

fruit for profit, that it is better to shape the tree and do the main pruning when the wood is young and tender, than to wait until the branches grow large, and then it is very difficult to carry out any system of pruning that will do the tree much good.

On fruit trees that are inclined to bear fruit early, Summer pruning should be practiced very sparingly. While on trees that are not so inclined, this method is the most easy and effectual to bring about the desired results.

Horticulture in England.

Observations of an American Gardener.

BY CHARLES BARNARD.

Window Plants.

THE first most noticeable thing about the dwelling houses, is the attention paid to the culture of window plants.

Of the business streets or concerning the dwelling houses themselves we have nothing to say. It is enough that nearly all the houses have windows with wide sills or balconies. From the poor woman with her broken-nosed teapot with a geranium growing in it, to the Prince of Wales with his elegant tile-covered trays in his palatial windows, the love of window flowers seems universal. I should think that half at least of all the first-story windows in London have flowers or plants before or behind the glass. In some streets every window has its tray on the sill.

The Furnishing Florists

in London are those who make it a business to furnish or decorate windows. These men make it their business to produce plants in flower and suitable for the season and the place they are to occupy.

The beauty, elegance and taste displayed in so simple a matter as this is something that puts Americans into the shade. The English young lady has four ways of arranging her window ornaments. She may simply place the pots on the sill behind the iron guard that is always ready, or she may plant them in a narrow wooden box. She can have the plants in beautiful terra-cotta pots, or she may use tile-covered trays. These last are very beautiful, and are the most fashionable. If she fancies hanging baskets or brackets the stores present a bewildering assortment in every form of cast-iron, terra-cotta, wire and moss, or wood.

The Prince of Wales fills his windows with zinc trays covered with Minton Company's glazed-ware tiles. This is considered the style. If Fifth avenue and Beacon street wish to do the very fashionable thing they will procure these handsome tile-covered trays and fill their windows with beauty.

Now for the places where the plants are produced. Climbing to the top of an omnibus in Oxford street, let us take a ride. The wide street is crowded with a hurrying mass of vehicles of every style. See that donkey cart loaded with lovely plants in full flower! On one little box of a team are plants enough to stock an ordinary New York flower store.

Where can they be going? Ask the driver. Driver: "Peddlers them is; sells

'em round to folks' winders." Presently we come to another dealer. This time it is a woman with a wooden tray on her head; mignonette in four-inch pots and thick with bloom.

Greenhouses.

On turning into the Harrow road and entering the newer parts of the city, we notice several elegant little greenhouses about twenty feet square, tucked in between the buildings and filled with plants in bloom. These are the retail furnishing florists. After riding about half an hour we pull up before the establishment of a wholesale florist. On entering the gate we find a light span-roof house filled with fine plants in full bloom. The variety is not so great as one would expect, but the plants look remarkably healthy and strong. An hour's walk and talk in this place shows that, as far as the general carrying on of the business is concerned, there is nothing new or specially valuable. In many details of culture improvements on our own methods were visible. The greenhouses were nearly all span-roofed, and appeared to have grown up around the proprietor's house in a confused and inconvenient fashion. The mode of heating was entirely by hot water, and presented several features of interest. The space occupied is eight acres, and is located in the midst of brick houses. About half the land is covered with glass. The number of plants on hand seemed to be, roughly speaking, about one hundred thousand. They were nearly all ready for sale. Many of the houses and frames, both hot and cold, were empty, the stock having been sold.

Arrangement of Plants.

A careful examination of plants showed that they fully occupied the pots; that is, if they were designed to grow any longer, new pots would be required. But they are not intended to grow. One full crop of flowers is all that is expected. The flowers fade and the plant is thrown away. This is entirely opposed to the bedding plant system, where a plant is bought for culture. These are for "furnishing" a decoration. When they have done that they are abandoned. This is certainly quite different from our method. Here it is understood that the plant will not outlast its one crop, and is so treated. The price admits of this. If one can buy six new plants, in the course of the summer, for the price of one that will last two months, the gain is in the favor of the transient and fading plants. For instance, a pot of mignonette can be bought for three pence. It is in full bloom, and will last three weeks. Another three-penny piece will get a new one. At the end of the season it is found the six plants have cost less than one cultivated all the time.

All of these plants are in small pots. The mignonette is sown in the pot it is to bloom in. When about an inch high, it is thinned to eight plants. These are grown slowly, in a moderate temperature, in frames. Each plant throws up one spike, and as soon as it shows signs of opening, is ready for sale. Lobelia and other small seedlings are treated in the same way. Roses, geraniums, stocks, etc., one in a pot. Very little repotting is done, I was told, and all the pelargoniums and some of the other plants are carefully trained out on sticks. The pots ranged from four to six inches. I saw many plants of verbenas and heliotrope, three in a pot, and showing a fine bloom. It is plain that all these plants are fit for this one purpose, window decoration, and nothing else.

Quick Returns.

To American florists we can recommend this branch of business as something well worthy of their attention. It is plain that the grower gets a quick return with little labor; and with a great saving in the pot bills, as the pots are returned when the plants are set in the trays. To make such a business succeed cheapness is essential. If the plants could be sold at very low figures success would be certain. My own experience in the plant trade convinces me that it can be and in time will be done.

In families where a gardener is kept, and a greenhouse maintained as a part of the household belongings, more plants are used than one house can supply, and the commercial florist is called in. Besides, the plants so used are generally much injured in one or two evenings. The family stock would soon be used up. The gas, heat, dust, and, worse than all, the dismal London smoke that penetrates every room, combine to destroy both foliage and bloom. So it has come to pass that gigantic establishments, numbering their planthouses by the score, have sprung up to decorate these endless parties, dinners and routs. This decorating rooms with plants has been practiced in a small way in the United States. It should be more general. A taste for the refined and beautiful will be cultivated and a new branch of business started.

Cut Flowers

are quite general in London, though we doubt if so many people in proportion to the population enjoy them as with us. As we said of the bouquets made here, so we must speak of this matter. Flowers are plenty, but the taste to put them together is wanting.

In the arrangements for holding flowers, on the other hand, the English are ahead of us. A whole column and a dozen cuts would fail to give you an adequate idea of the richness and variety of glass and other ware used to hold flowers. I can only mention a few I chanced to see in the shop windows and at the Royal Albert Hall. Among the prettiest things were cut-glass troughs about two inches deep and wide, and of various lengths. Some were straight and some curved. When filled with cut flowers and arranged in various patterns, monograms, letters, etc., upon the table, the effect is fine. Plate glass mirrors under them add greatly to the effect.

Ferns and Foliage Plants

are used here for green. Whole leaves of Croton, Dracæna, Begonia and Maranta, and long streamers of Cissus discolor are freely cut and placed with the flowers. The effect is something past description.

I have not seen a spray of that cheap and ugly Lycopodia, so much used in New York, nor, on the other hand, a yard of our lovely Smilax. Much as the English gardeners lack taste, in variety and profusion of cut flowers they distance us. Besides these foliage plants they use many flowers not known in our markets.

Among other glassware I noticed what is here called an "iceberg"—an irregular heap of rough glass looking like ice. It is made in several parts, and the sides are pierced with small holes. Water is put inside, and Crotons, Adiantums, and other greens inserted in the holes till the glass is half hid with the falling sprays or glisten-

ing leaves. Imagine such a thing as that on a brightly lighted table. Time forbids an extended account of this table ware. In a city of so much wealth and artistic skill, we expect everything to be of high-class design and manufacture. Wedgewood and Flaxman have done a great deal for English art and pottery, and we can only regret that the florists have had no Flaxman to teach them truth and beauty in their art.

It is often the custom in America to decorate the chandeliers with flowers. We tie the sprays to the lamps only to see them fade in the heat. Here they do much better. Imagine a plain four-armed chandelier with an upright pipe for support, and beneath it and securely fastened on, a handsome painted china dish. Inside is a tall vase to match, with the gas pipe passing through it. The four lamps stand on the edge of the dish and the vase hides the pipe. This is for holding water, in which the flowers are placed. Seen from below when filled and lighted, it must make a fine show. Even without the flowers the lamps so made are far superior to the usual pattern. Such a lamp as this could be easily made by our gas-fixture men. At once I hear the housekeeper reply: "Very fine, no doubt, but how am I to clean it out?" With a dipper, sponge, and some ingenuity.

An elaborate piece of glass and Wedgewood ware was also exhibited at the Royal Albert Hall. It was made in parts and designed to stand upon a dining table. The outside rim was of black and gold china, forming a curb for the glass lake inside. Within this was another rim of Wedgewood ware, troughs ornamented with a Greek pattern in foliage, and figures of men and animals. Inside of this more of glass mirror. In the center rose a fine stand for candles, with places for bouquets among them. Fruit dishes, flower stands and light holders were arranged at intervals about the edge. The whole was filled with fresh flowers, and was surrounded by a crowd of admirers. Such is English table decoration. But what is the good of so much art? The flowers were cheap and poor, and placed in this splendid affair by the hand of a bungler and novice.—*From the N. Y. Evening Post.*

Planting Ornamental Trees for their Colors.

A VERY interesting address on the subject of choosing trees for parks and gardens, as well for their *colors*, in spring and autumn, as their shape and vigor of growth, was delivered by Mr. W. Paul before the Horticultural Congress at Oxford, England, July 21.

We may have spring pictures, summer pictures, autumn pictures, and permanent pictures. Summer and permanent pictures are the most valuable, because of their greater durability. Specimens of these are before you, and a list of their names will be given at the end of this paper. The materials for spring and autumn pictures can only be shown in spring and autumn. The varying tints of the unfolding leaves of some trees in spring, and the glowing colors of the leaves of other trees in autumn, must be familiar to all observers, and these trees are beautiful in their seasons, whether regarded individually, or in combination. But they are transitory. The varied and telling colors of spring, ordinarily, quickly subside into the universal

green; and the bright leaves of autumn fall speedily before the frost and gales of that season. Yet, both are desirable. The warm, red and yellow tints of the unfolding leaves are peculiarly cheering in the cold days of early spring, and should be introduced freely when planting. The splendor of the American forests in autumn is a theme on which many travelers have loved to dwell, and leaves from these forests may be seen in that admirable institution, the South Kensington Museum. The trees we have long had under cultivation, and they are not only available but capable of being wrought up with magnificent effect in this country. Among the most effective of spring trees the Corstorphine Plane (*Acer Pseudo-Platanus flavo-variegatum*), yellow; the *Acer colchicum rubrum* (red); the purple Horse Chestnut (*Æsculus Hippocastanum purpureum*), purple; and the Silver Poplar (*Populus argentea*), white, may be instanced. The shades of green at this season are also innumerable, although for the most part gradually subsiding into one nearly uniform tint. The brightest among the leaves of autumn are, perhaps, the Scarlet Oak (*Quercus coccinea*), the Liquidambar (*L. styraciflua*), the Stag's-horn Sumach (*Rhus typhina*), the *Ostrya virginica*, and several varieties of Cherries, Pears and Maples; these usually die off bright red. Of yellow shades may be instanced the Lombardy and Ontario Poplars (*P. fastigiata* and *P. candicans*), the Norway Maple (*Acer platanoides*), the Horse Chestnut (*Æ. Hippocastanum*), the *Salisburia adiantifolia*, the Lime (*Tilia europaea*), the Tulip tree (*Liriodendron tulipiferum*), the White Mulberry (*Morus alba*), the *Gleditschia triacanthos*, the *Magnolia tripetala*, the *Juglans amara*, the *Acer Negundo*, the *Kölreuteria paniculata*, the Birch (*Betula alba*), and certain varieties of Cherries, Pears, Thorns, and Maples.

As examples of planting for pictorial effect, nothing can be more beautiful in the flower garden than pillars or columns of Ivy, provided that they be appropriately placed. Here we have a dark green, light green, green blotched with gold, and green-edged with silver, all calculated to form permanent pictures. Standard and pyramidal golden Yews and golden Hollies, also, form beautiful permanent pictures in the garden. All permanent pictures are, of course, also winter pictures, but the common Beech (*Fagus sylvatica*) deserves special notice; it holds its reddish, brown leaves throughout the winter, and this color stands in warm and beautiful contrast with the Pines and other evergreens at that season. The white bark of the Birch, the white, purple, and yellow bark of certain species of Willows, the red and yellow berries of the Holly, and the yellow and black berries of the Privet, are also invaluable for winter decoration. I have often admired the effect of three large trees placed in juxtaposition in a garden in my neighborhood, whether by accident or design I have no means of ascertaining. Near the bend of a river is a Weeping Willow, the pale, green, drooping branches appearing in the distance almost to sweep over the stream. Behind rises a mass of the dark, feathery Yew, the plumes of foliage waving in beautiful contrast of motion, form and color. Still farther behind there appears in spring rigid masses of Apple blossom, the snow-white, crimson-tinted flowers blending in beautiful contrast with the dark and pale green of the Yew and Willow.

A.—Summer Pictures.

1. *Light Green*.—*Larix europaea*; *Taxodium distichum*; *Gleditschia triacanthos*;

Juglans laciniata; *Acer Negundo*; *Tilia europaea*; *Catalpa syringæfolia*; *Robinia Pseud-Acacia*; *Platanus occidentalis*.

2. *Dark Green*.—*Fraxinus crispa*; *Fraxinus monophylla*; *Alnus glutinosa*; *Cytisus Laburnum*; *Pyrus Aucuparia*; *Æsculus Hippocastanum*; *Betula nigra*; *Fagus sylvatica*; *Ulmus*, various kinds; *Quercus Cerris*.

3. *Reddish Purple*.—*Fagus sylvatica purpurea*; *Ulmus campestris fol. purp.*; *Acer Pseudo-Platanus fol. purp.*; *Acer japonicum atropurpureum*; *Corylus Avellana purpurea*; *Quercus pedunculata purpurea*; *Quercus nigra*; *Burberis vulgaris fol. purp.*

4. *Yellow or Golden*.—*Quercus Cerris variegata*; *Quercus Robur var. Concordia*; *Fraxinus aueubæfolia*; *Castanea vesca variegata*; *Sambucus nigra aureo-varigata*; *Symporicarpos vulg. fol. aureis*; *Spiræa opulifolia lutea*; *Robinia Pseud-Ac. aurea*.

5. *White or Silvery*.—*Populus argentea*; *Acer Negundo variegatum*; *Tilia argentea*; *Pyrus vestita*; *Pyrus salicifolia*; *Salix argyrea*; *Shepherdia argentea*; *Hippophaë rhamnoides*.

B.—Permanent Pictures.

1. *Light Green*.—*Pinus pyrenaica*; *Cedrus Deodara* (the green variety); *Abies orientalis*; *Abies rubra*; *Ilex balearica*; *Juniperus thurifera*; *Juniperus virginiana*; *Juniperus chinensis*.

2. *Dark Green*.—*Pinus insignis*; *Pinus austriaca*; *Picea Nordmanniana*; *Araucaria imbricata*; *Cupressus Lambertiana*; *Quercus Ilex*; *Cerasus lusitanica*; *Phillyrea*; *Garrya elliptica*; Hollies and Yews, various.

3. *Purple*.—There are no suitable purple evergreens, consequently this color is restricted to summer pictures.

4. *Yellow or Golden*.—*Abies excelsa finedonensis*; *Cupressus thyoides variegata*; *Ilex Aquifolium aurea*; *Thuja aurea*; *Thuja elegantissima*; *Taxus baccata aurea*; *Euonymous japonica flavescens*; *Retinospora pisifera aurea*.

5. *White or Silvery*.—*Cedrus Deodara* (the glaucous variety); *Pinus excelsa*; *Pinus monticola*; *Pinus nivea*; *Abies alba glauca*; *Ilex Aquifolium argentea*; *Juniperus virginiana glauca*; *Rhamnus Alaternus fol. argentea*.

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The Fruit Cabinet at Washington.

THE Fruit Cabinet of the Agricultural Department at Washington city, contains plaster casts of the fruits from all the different sections of the United States, arranged so as to show at a glance the products of each region, and the specific changes caused by transplantation. It has been ascertained, by examination of these specimens, that Northern apples, when transplanted to more Southern localities, enlarge in size, become more juicy and luscious, and acquire a large percentage of saccharine matter. As a drawback to these advantages, however, they lose the quality of keeping over winter. Thus the Baldwin apple grown in Massachusetts, is a small fruit, but as the tree is transferred through Western New York, it becomes larger and brighter in color, with an improved taste. It, however, cannot be preserved till the next spring. The Snow apple of Canada, and other varieties, exhibit a tendency to shrivel up when planted south of Lake Erie. The Russian apples, recently introduced into the United States, it is thought, should only be planted in the northern parts of this country. The origin of the apple is not known. It is mentioned in the Bible, and is therefore supposed to be a native of Palestine. At the present day, however, in Canaan, and surrounding countries, it is worthless as a fruit. On the walls of the Fruit Cabinet are hung diagrams, showing the character and habits of the different insects that prey upon the fruit and fruit trees of the United States, and in glass cases are preserved the native birds that feed upon these destructive insects, which should be protected by the kind treatment of the agriculturists. The whole arrangements are neat and handsome, and well repay a visit to this department of science and agricultural art, and rare specimens of artistic splendor and skill.—*Chronicle*.



Editorial Notes.

Frontispieces.

For this and the succeeding three months, we will print frontispieces of our engravings, on tinted paper. The illustration for the present month is one of an elegant *Bird Cage with Flowers*, exhibited at the recent Paris Exposition, where it attracted the most flattering attention.

Excursion to the West.

The New York Agricultural Excursionists returned to New York, August 25th, after an absence of five weeks, and a tour over 5,600 miles of Western territory. They were received with special honors at every place visited and great facilities were afforded for obtaining information. The note books of these correspondents are filled to the edge and from front to back with solid information, and we suppose that for three months to come the papers will be full of it. The Excursionists enjoyed a most delightful time, having visited in their tour, the Indian Territory, Missouri, Kansas, Colorado, the south part of the Rocky Mountains, Pike's Peak, Colorado Springs, Denver, Greeley, Laramie and Nebraska. One important point in the entire trip was demonstrated with distinctness, that *deciduous and evergreen trees can be grown on the dry prairies of far western Kansas without irrigation, and make as rapid a growth as in any other portion of the West.* We shall soon have some notes on this subject.

Cultivating Young Orchards.

The following is the experience of the two most successful peach growers in the Delaware Peninsula:

'Mr. Cummings says: "You may raise some crops on the vacant land till the trees and plants begin to yield their fruits, but after that the land ought not to be taxed with anything other than the intended crops. The trees, etc., should be manured and limed to keep them in heart, and the ground cultivated like a garden, that no weeds or grass may interfere with the orchard. I plough my orchard, harrow, and cultivate—the latter process three and four times every summer, when I lay it by."

'Mr. Fennimore says: "My long experience has taught me that all vegetables, from the very smallest to the greatest, small fruit and fruit trees, require the very best and constant cultivation in due season; not to suffer small grain, and particularly white clover, to grow around the roots. As the trees come into bearing, it is very necessary that some stimulating manures should be applied."

Leached ashes are probably the best fertilizer you can get—one hundred and fifty bushels to the acre; the next best is well composted manure. In all cases plough shallow; the feeding roots are all searching moisture, and the best soil. Therefore, as the roots work for the surface, where the manure is, if you plough deep you destroy the feeding power,"

*Peaches in 1871.*J. 278
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The croakers have certainly won a victory this year. Peaches have been overdone, and growers have been obliged to stop shipments on account of unprofitable prices. Peaches have sold in New York for twenty-five to forty cents per basket, which cost the grower in freight every cent of that price, and often times brought the producers into debt. It has been difficult to induce the peach growing community to take a word of caution in time to avoid such a disastrous glut. But the Delaware growers have persisted in putting out new orchards every year, until their wild enthusiasm has received this wholesome check.

There are enough Peach trees old and new, now planted in the State of Delaware, which, if they were to yield a full crop, would supply the entire United States.

The shipments to New York averaged during the month of August fully one hundred and fifty to two hundred car loads per day, or seventy-five thousand to one hundred thousand baskets.

Low Prices of Fruit Everywhere.

Peaches are not the only sufferers. For pears, good Bartletts, have yielded only five to eight dollars per barrel, and grapes have sold as low as four cents per pound. Blackberries fell to two and four cents per quart when peaches made their advent.

Our city friends who have been hoping for the time when fruit would be so cheap that the poor could eat freely, have now had their opportunity, but the situation is unchanged. The retail prices are quite as high as ever, and the poor have not bought at all. Surely our fruit philosophers must put on another thinking cap, and seriously reflect, whether gluts help the poor at all, and if the grower does not suffer enough more mischief from his losses, to overbalance all the possible good that might accrue to the poor buyer from occasional gluts and low prices. Our sympathies are entirely with the grower. The laborer is worthy of his hire, and those who grow fruit and farm produce should receive a fair price for their labor.

How Plants Spread.

Nature says: As an instance of rapidity with which introduced plants spread, when soil and climate are congenial to their habits, we may point to the *Euphorbia prostrata*, Ait, a little annual weed in Jamaica and Trinidad, which became introduced by chance, about ten years since, into a garden in Madeira, situated some 400 feet above the sea; from this spot it has rapidly spread down the steep road to the town; while up the other hills, separated by deep ravines from that down which it came, it has scarcely crawled at all, a downward course, apparently, being far easier for it than an upward one. It has, however, slowly crept up another hill at the rate of about ten feet a year. The seeds are well adapted for sticking to the clothes of travelers, and to be carried about, so that we might well expect the plant to crop up in all directions. Mr. Lowe says that it is now to be found everywhere in Funchal below 500 feet.

Strawberries in Ohio.

Mr. Batcham, the Secretary of the Ohio Horticultural Society, makes this report for 1870, of the fruits in his section:

Strawberries were a full crop and of good quality. Generally planted in rows about three feet apart, and the plants eighteen inches apart in the rows, letting the runners grow, and taking off two crops, then plowing up and re-setting on fresh land. Yield sometimes good—often poor. Some growers take pains to keep the runners off the plants, and the crops are thereby much improved; the plants also continue longer in good bearing condition. The Wilson is the principal variety grown here for market. The Jucunda has been tried and not found profitable with our usual mode of culture. But with liberal manuring, keeping off the runners and mulching, I am confident it will be found superior to all others. I have been very successful with manuring my strawberry grounds with chip manure and fish offal (this contains no weed seeds.)

A Floral Clock.

Hearth and Home mentions the curious characteristics of many flowers opening and closing at different hours of the day.

"Some flowers close at night, some are closed during the day and open at night, and others again are almost as punctual in opening and closing as a good clock is in keeping time. *Ornithogalum umbellatum* is called in some places Lady-Eleven-o'clock, because it closes its flowers about 11 A. M.; some species of *Tragopogon*, or Goatsbeard, close their flowers at noon, and hence have received the common name of Go-to-bed-at-noon. The Evening Primrose (*Oenothera biennis*) opens its flowers in the evening; the Scarlet Pimpernel (*Anagallis arvensis*) is called the Poor Man's Weather-glass; it opens its flowers about 8 A. M., but closes them again if the day is likely to be rainy.

Linnæus constructed what he called a floral clock, wherein the time of the opening of certain flowers indicated the hours of the day. De Candolle also made one from observations in Paris, which we subjoin, giving the hours of waking or opening:

Ipomea purpurea.....	2 A. M.
" Nil	3—4 "
Matricaria suaveolens.....	4—5 "
Papaver nudicaule.....	5 "
Convovulus tricolor.....	5—6 "
" sieculus.....	6 "
Sonchus and Hieracium, several species.....	6—7 "
Nymphaea and Lactuca " "	7 "
Specularia speculum.....	7—8 "
Anagallis arvensis.....	8 "
Nolana prostrata.....	8—9 "
Calendula arvensis.....	9 "
Arenaria rubra.....	9—10 "
Mesembryanthemum nodiflorum.....	10—11 "
Ornithogalum umbellatum.....	11 "
Passiflora cerulea.....	12 M.
Pyrethrum corymbosum.....	2 P. M.
Silene noctiflora.....	5—6 "
Oenothera biennis.....	6 "
Mirabilis Jalapa.....	6—7 "
Lychnis vespertina.....	7 "
Cereus grandiflorus.....	7—8 "

Summer Pinching of Raspberry and Blackberry Canes.

A correspondent of the *Gardeners' Monthly*, writing from Illinois, says that he has found much benefit by pinching back the canes of raspberry and blackberry plants in July, and enumerates them thus: 1st. Increases the size and self-supporting capacity of the main canes. 2d. Increases the number of side branches, and consequently the quantity of fruit.

Ontario Black Cap Raspberry.

This is a new variety found in Fairport, N. Y., by E. E. Lord, Newark, Wayne county, and by him introduced to notice. The plant is vigorous and very productive, equaling in this respect any of the Black Cap family. The fruit is sweet and juicy, and quite as large, as grown upon Mr. Lord's grounds, as any of its class. It has more bloom on it, is firmer in flesh, and will bear carriage better to a distance, judging from what I saw of the plantation a few days since, which did not appear to have had any extra cultivation. I would think it a profitable market variety, if it succeeds as well in other soils and localities as it does with Mr. Lord.—Charles Down, in *American Rural Home*.

Publications and Catalogues Received.

Annual report Mercantile Library, N. Y., 1871. Report Diseases American Cattle, 1869. Iowa Horticultural Report, 1869. Transactions Indiana State Agricultural Society, 1871. Wholesale Catalogue, fall, 1871. Nicholas & Newson. Geneva. Catalogue of E. H. Krelage & Son, Harlem, Holland. Annual Report Commissioner of Agriculture, Washington, D. C. List of Agricultural and Horticultural Societies in the United States.

Foreign Judgment on American Wines.

An Ohio horticulturist, annoyed at the severe criticisms of foreign connoisseurs on American wines, without an attempt at careful judgment, sent samples of sufficient numbers of varieties of wines raised and made in his neighborhood, to a place in Eastern Germany, where usually choice Rhine, Moselle, and Frankish wines are drank, better than are used even on the Rhine itself, and where the decision would not be biased by local preferences. The specimens shipped, were served up at a *fête* in Silesia, and was attended almost exclusively by men of eminent culture and standing, enjoying the best opportunities to know and pronounce upon these gifts of Bacchus. Excellent and indisputably genuine samples of German and French wines were at hand for the purpose of comparison.

The following is the conclusion reached:—"We have nothing to say of your White wines. It may be that they were bottled too early, or damaged by the heat in transportation, and may, therefore, have a better taste there (in America) than here; but to us, notwithstanding their strength, they seem vapid, and sour besides.

"The Ives Seedling has a peculiar, too spicy taste, and is, therefore, not adapted for ordinary beverage. Yet it is a good wine, and perhaps to be recommended for medicinal purposes. It resembles certain kinds grown on the Grecian islands.

"The Virginia Seedling is an excellent quality, and already ranks even with petit Burgundian, and under a perfect treatment it may yet rival the best Burgundian.

"Your sparkling wine (Werk's Double Eagle) has astonished us. Some gave it a decided preference over the French on account of its natural bouquet, and because it has so much body."

The Kittatinny Blackberry.

How much experiences and opinions do differ. The Kittatinny is much the most vigorous grower of all the varieties of blackberries, but here in our New York market is the least popular with buyers, because it loses its bright shiny color so quickly. In the West, however, it is the very best of all kinds. A Lacon correspondent of the *Prairie Farmer* says:

"I have fruited this year, under favorable circumstances, at least thirty distinct varieties of blackberries, and no other named variety is worth a moment's notice in comparison with the Kittatinny. The fruit is the largest I have seen. I measured several different berries that averaged an inch and a-half long, four inches in circumference the long way, and two and a-half the other. When fully ripe it is all that could be asked in the way of satisfying flavor. When just black, it is perfect for cooking and shipping.

"But to be productive it must have peculiar treatment. Most blackberries make more blooms and set more fruit than the plant can mature, therefore they should be cut back severely early in the spring. The contrary is the case with the Kittatinny; it never shows more bloom than it can mature fruit when properly cultivated, therefore it should never be cut back in the least in the spring, *i. e.*, the fruiting cane should not, but the young growing cane of this year that is to fruit next, cannot be pinched back too often—the oftener it has the tips of its shoots pinched out, the more it will branch, the more branches the more fruit; but all of these sub-branches should have a natural *terminal* bud at the end of the season of growth, and this bud should never be cut off. This cutting back after the season of growth is over, has caused

the complaint of unfruitfulness of the Kittatinny almost altogether. There is another point about this plant that has caused many to become discouraged. It does not bear much until it has become well established, which takes from three to four years; we get discouraged before that time and neglect our duty, and failure is the result. Any one can have success with this fruit who will cultivate it well, on any reasonable soil (without manure) and cut back the young canes as they grow after the first year. It is perfectly hardy here. In six years it has never had an inch of wood killed.

"After considerable experimenting, I have adopted the following system as the best for making a plantation:—Rows six feet apart, running north and south, on deeply plowed land (light, dry clay soil is the best), plants from one to four feet in the rows—would prefer one foot; cultivate thoroughly while young to keep the blue grass from getting a hold in the rows, which is to be feared more than anything else. Ashes is the best and only fertilizer needed."

Trust for Fine Foliaged Plants.

It is stated that at Fuchsia Nursery, Woolwich, England, there is one of the largest beds of ornamental plants known. The bed is 34 feet long, 11 feet wide, and contains 2000 plants, costing \$300. Here in America we may not possibly have anything quite as costly as that, yet our American flower gardeners can produce some magnificent displays of flowers, which in gorgeousness of color will challenge comparison anywhere.

At the nursery of Ellwanger and Barry, Rochester, there are two fine beds of ornamental plants, one of fine foliaged plants, the other of Gen. Grant Geraniums.

The bed of foliage plants is round, with a diameter of twenty feet. A group of Cannas is planted in the center, then a row each of *Abutilon Thompsoni*, *Gnaphalium lantum*, *Iresine Lindeni*, *Artemisia Stelleriana*, and *Alternanthera*, all planted in the order they are named, commencing from the center. The geranium bed is very effective. It is twenty feet in diameter, and contains upward of 125 plants, with a border of *Centaurea Candidissima*. The brilliant red of the geraniums, the pure white foliage of the *Centaurea*, and the green lawn, form a charming contrast.

Iresine Lindeni has proved to be one of the most valuable bedding plants. The foliage is of a deep blood-red color, and the plant is of a neat, bushy habit. It can be trimmed into any shape.

General Ulot Geranium, of more brilliant color than the Grant, with fine truss, and a profuse bloomer, promises to supersede that well known geranium. For flowering or forcing in the house, there is none better.

Grape Note.

Passing through the experimental grounds of the Agricultural Department to-day, I found among the grapes but three bad cases of rot—Antuchon, and Rodgers' 33 and 41. The earliest grape (now absolutely ripe), is the London—medium, black, juice blood red, sweet and good. Hartford and Ives nicely colored. By the way, is it not singular that in Downing's new edition, there is not a word of Allen's Hybrid, Anna, Lorraine, London, all of which are to be found in publications of prior date?

Washington, D. C.

F. A. SIMKINS.

How to Grow the Verbena.

Dexter Snow, who for several years has made the propagation of the verbena a specialty, says of its cultivation: "To grow the verbena successfully, plant them in beds or borders cut in the turf chop the turf well, and thoroughly mix with it a good share well decomposed stable manure; never, on any account, plant them in an old and worn out garden soil, as they will most assuredly fail. Give them a change of soil each season, as they do not thrive well two years in the same bed. Let the beds, if possible, be where they will have the sun the entire day. By following the above directions, one may have a verbena bed that will be a mass of bloom the entire season, amply repaying the care and toil they may require.—*Exchange*.

Old Rose Bushes.

A subscriber sends the following on the management of old rose bushes to the *New York Observer*: "Never give up a choice but decaying rose bush till you have tried watering it two or three times a week with soot tea. Take soot from the chimney or stove in which wood is burned, and make a tea of it. When cold, water the rose with it. When all is used, pour boiling water a second time on the soot. The shrub will quickly send out thrifty shoots, the leaves will become large and thick, and the blossoms will be larger and more richly tinted than before. To keep plants clear of insects, syringe them with Quassia tea. Quassia can be obtained at an apothecary's. The directions I enclose have been fully tested in my family, with most satisfactory results.—*Prairie Farmer*.

Strawberries at Rochester, N. Y.

The *Country Gentleman* gives some notes on Strawberries by H. E. Hooker, of Rochester. His list for a family supply is: Large early scarlet, Wilson's Albany, Triomphe de Gand and Russell's Prolific. The early scarlet he finds produces about one-fourth as much as the Wilson; Triomphe de Gand one-fourth to one half; Russell's well fertilized, one-half to three-fourths; Green prolific nearly or quite as productive as the Wilson.

The Iona Grape.

F. R. Elliot writes to the *Rural New Yorker* that the Iona is not a success as a vineyard grape; that it is a decided failure. It succeeds in some localities occasionally, and is a good grape when well grown and perfectly ripened, but he thinks no man of sound mind would plant it by the acre.

Winter Mulching Fruit Trees.

Peter M. Gideon, of Excelsior, Minn., a little north of St. Paul, says, of nearly 4,000 fruit trees well mulched last fall not one was injured during the winter, while five of eight trees missed in mulching were badly damaged.

Blood Leaved Peach.

Mr. Meehan, the editor of the *Gardener's Monthly*, has on his grounds peach trees, the foliage of which is a very rich crimson red. The fruit is not equal to that of some of the best varieties.

Professor of Horticulture.

Mr. Francis Parkman has been elected Professor of Horticulture in the Bussey (Agricultural) Institution, connected with Harvard University.

The Periwinkle.

A correspondent of *The Prairie Farmer* writes:—You would hardly have believed, I think, that the beautiful Madagascar Periwinkle, planted in the house or hot-bed at the same time with my balsams, and receiving similar treatment in all respects, would come into blossom at the same time, making a far more beautiful and available plant. Their heavy and finely-veined foliage is enough of itself to show their royal lineage, and my beds of them have been a delight since they first went into the garden.

Croton and Senasqua Grapes.

At Canandaigua Lake the Croton has been attacked with mildew and rot. The Senasqua is, however, perfectly healthy and a strong grower.

The Portulaca.

There is no other plant among our hardy annuals from which, in my opinion, the cultivator will derive so great an amount of enjoyment, in proportion to the time and trouble required for its cultivation as from the one above named. All that is necessary to insure a gorgeous show of flowers during the whole season, is to prepare your bed, or border, in the fall, or early in the spring, scatter your seed thickly over it, and then keep it free from weeds. After getting the bed once started it will require no further attention for years, except the loosening of the soil in spring, and the destruction of weeds, as any number of plants will start, each year, from self-sown seeds. For a bed, or border, the single variety is almost as desirable as the double, but for single plants, or for special purposes, the double is preferable. I have a border of Portulacas upon which I sowed the seed several years ago, since which it has received no other care than I have named above, but from the brilliancy of its many colored flowers, it attracts more attention and gives greater pleasure than does my collection of house plants, the care of a single one of which costs more labor in a month than this border has required in years. When beauty is so cheap, why is it that any one will live without beautiful surroundings?—*American Rural Home.*

Dr. Hull's Fruit Orchard.

An account of this beautiful fruit farm is given in the *Country Gentleman*:

"It is 180 acres in extent, of which over 150 are in fruit. The peach crop is very good; Hale's Early had already been harvested, and were splendid; the Early Tillotson were checked by the terrible drouth under which this country has suffered for months, but brought \$1.50 per bushel in St. Louis; work had been commenced the day before on the Early Crawford, Hale's Early and Early York, by marketing 150 baskets. The plums are the best money crop of all, and are now going to market: Washingtons sell in St. Louis for 75 cents per box of two dozen—some specimens of this sort measure 6½ inches in longitudinal circumference, and 2½ inches transversely; Smith's Orleans and Columbia are not quite so large, but have a higher flavor, and bring about the same price; Jefferson, Coe's Golden Drop and Duane's Purple were just coming into season. In pears, the White Doyenne had been sold in St. Paul at \$2.25 per box of one-third bushel; Virgalieus (which do not crack here), Bartletts and Seckels were to be attended to the first week in August; this fruit is less affected by the drouth than others. Cherries had borne in great abundance, and \$800 worth met quick sale in Chicago at \$3.50 to \$5 per box of less than one-third bushel. Of grapes, the Doctor has three acres, with a general assortment; Hartfords are just coming on, and worth 20 cents a pound in St. Louis. No anxiety is felt here about yellows on the peach trees, or curculios on anything. The remedy for the former is short, sharp and decisive—to dig out the tree forthwith, root and branch. For the curculio, the jarring process many times described in the *Country Gentleman*, is found entirely effective, there being luckily no careless neighbors near by to furnish new hordes; we understand, however, that the Doctor has in view an improvement, which will be introduced in due time; the new Ransom process is also sometimes useful.

We must mention, as among the interesting features of this place, the utilization of what was formerly a noxious pond of five or six acres. It was drained by cutting a tunnel, and the sides terraced for fruit, with a garden at the bottom, forming a unique and attractive object. All Dr. Hull's grounds are in prime order, though just now very dry and dusty. Their proximity to the river gives them another advantage beside the fine view—exemption, namely, from the heavy spring frosts to which this district is subject, and this advantage has been invaluable the present season.

Horticultural Notes.

Successful Culture of Fine Foliaged Plants.

A contributor to the *Country Gentleman*, lately saw some fine specimens of floral plants in Baltimore, Md. "A plant of Begonia Marshallii, four feet across the front, two plants of Caladium esculentum near five feet high, leaves thirty by twenty inches, and Cissus discolor, with leaves eight inches in length and beautifully marked. These plants are in seven inch pots. Besides those mentioned, he has a collection of Begonias in the most robust health, and varieties which are usually considered difficult by the most skilful among us, flourish with him equally with the more robust kinds.

"His Coleus, too, are models of splendid coloring and rampant growth. One plant challenged my attention more particularly—a Pheris, in a four inch pot, with upwards of twenty fronds, the largest near five feet. I have not mentioned these things as being very extraordinary, but to show that when a man can take hold of a collection of plants in a sickly state, and in a few months bring them into the most robust health, and in such small pots grow them to a size that many gardeners cannot do after a long life of practice—I say when a man can do that, he is an honor to his profession."

Pruning Newly Planted Maples.

The horticultural editor of the *Country Gentleman*, says that newly set maples, "should be severely cut back, only in case the roots have been roughly handled and cut off. It is better to secure the roots as perfectly as possible, and to cut back moderately, and always do it before the buds swell."

Rapid Growing Shade Trees.

The same editor, in advising a new beginner how to plant his ornamental grounds, says: "It often becomes very desirable to plant trees that grow fast, and to select those which will furnish a shade the soonest. Several different kinds properly arranged, have a much better appearance than plantations of a single sort, and we would name among the rapid growers, the silver maple, the European larch, the chestnut, the common or American elm, the black walnut, and for the remote parts of the ground a few ailanthus trees. The silver poplar is an exceedingly rapid grower and one or two in a plantation make a fine appearance, the strong objection to its suckering being partly removed by planting it where these would be less objectionable, and by digging the suckers up carefully a few times while in leaf and growing, and not in spring before the leaves appear. Some of the oaks, when they become old and spreading, are the finest of all shade trees, and although slower of growth, should not be omitted in a plantation of any considerable extent. A few evergreens may be interspersed among the other trees—the Norway spruce is hardy and a fast grower."

Choice Summer Pears.

W. C. Barry furnishes the following notes on Summer Pears to the *American Rural Home*. He advises the cultivation of more very early sorts, as the medium ripening varieties are marketed when prices are very low, a few sorts ripening before the great bulk of fruit, or after it, will bring a much better price.

Bloodgood—This is one of the best pears of the season. It is of good size, high flavored, bears abundantly and regularly, and being very early, is a valuable orchard and garden fruit. It was brought to notice about 1835, by James Bloodgood, a nurseryman in Flushing. Farther back than this its history cannot be traced. Like other early pears, its quality is bettered by being ripened in the house. In our garden, a standard tree about fourteen years old, bears from four to six bushels every year. The fruit generally sells at the rate of \$2 per bushel; but this year, the market being full of peaches, they brought only \$1.50 per bushel. They were picked August 8th.

Beurre Giffard—A medium-sized pear, of very fine quality. Its flesh is juicy and melting, with an agreeable vinous flavor. It ripened this season about the middle of August and sold readily at \$2 per bushel.

Brandywine—This variety originated on the farm of Eli Harvey, on the river Brandywine, in Pennsylvania. The fruit is of medium size, flesh juicy and melting, and of excellent flavor. We picked our fruit the past week, and it is now ripening on the shelves. When perfectly matured it is a first class pear.

Manning's Elizabeth—A delicious little pear. As an early garden fruit unexcelled. It is a seedling of Dr. Van Mons, of Belgium, and was named by Mr. Manning, of this country. The flesh is melting, and the flavor is sprightly. It is now ripening with us, and at this time is one of our best pears.

Tyson—A chance seedling found in a hedge on the farm of Mr. Tyson, near Philadelphia. The fruit is of medium size, and of good quality. It is very productive, and bears large crops yearly. A standard tree of ours bears about twelve bushels annually, which sold this year for \$1 per bushel.

Dearborn's Seedling—A very desirable pear. Fruit small, but of fine quality. It is very productive, and is now about ripe. It originated with Mr. Dearborn, of Boston, about the year 1818.

Osband's Summer—A very good pear. It ripened with us about a fortnight ago. The fruit is round and small. It originated in Wayne county, N. Y.

Lilium Columbianum.

The *Rural New Yorker* illustrates this pretty Lily, a native of Columbia and Washington Territories. The plant grows one to two feet high, and has a most graceful habit. The leaves are produced in whorls resembling our common *L. Superbum*. The flowers are small and petals reflexed. Color orange yellow, spotted with dark brown. The bulbs are as hardy as any of our native lilies, and thrive in a good rich moist soil; on no account should rank barnyard manure be applied to lilies, as it is sure to cause disease.

A Fine Bed of Geraniums.

The *American Rural Home* describes a fine bed of Geraniums, at Elwood estate, Rochester, N. Y. The gardener commences making cuttings for the next year's bed in July, which he strikes in pots, and keeps in his green house through the winter. He aims to grow a large number of strong, healthy plants to select from. The bed, which is a large one, is laid out in the form of a palm leaf, the smaller end pointing toward the center of the carriage entrance from the street, and dividing the carriageway in front of the piazza, and main entrances of the mansion.

The preparation of the soil is a very important part of the process. The natural soil is strong, heavy loam, into which he works a good quantity of fine barn-yard manure, and well rotted leaf-mold from the woods.

The bed is thrown up higher in the middle than the outside, to give a convex surface, or the same result may be produced by selecting the tallest plants for the middle. The outside border of the bed is a strip of sod about two feet wide, the grass on which is kept closely shaven, as is the lawn. Inside of this border are planted two rows of *Bijou geranium*, a dwarf variety, with light green leaves, bordered and striped with white. These are very shy bloomers, but their green and white foliage affords a striking contrast to the scarlet mass of the body of the bed. Inside of this border the bed is closely planted with *General Grant* geraniums, the healthiest plant, and most profuse and brilliant bloomer in the family. He aims to transplant into the bed near the last of May, when all fear of frosts and chilling winds is past. After they are once started, he uses no water upon them, but keeps the surface mellow during the season by a free use of the hoe, and trims off the different trusses as they are done blooming.

Under such management the bed presents a slightly convex, but very even, regular

surface. As seen from the street, five or six rods distant, the broad gravel carriage road, the border of deep green grass, the inner border of light green and white-leaved geraniums, and then the large center of brilliant scarlet, altogether form a picture upon which the eye rests from day to day with unwearyed delight.

Time for Planting Fall Bulbs.

"As soon in the fall as bulbs can be obtained, they should be planted, though this will not generally be the case till October, but it is well to bear in mind that the earlier they are planted the finer they will flower."

Time to Make Currant Cuttings.

In the northern parts of the United States, currant bushes mature their leaves about the time the early frosts occur. Shoots so matured may be taken for cuttings as soon as the leaves are killed; but going south, the bushes are fully matured in August, and in some parts as early as July, and shed their leaves without the action of frost. In such cases it may be best to make the cuttings when about three-fourths of the leaves are shed, or, better than this, strip off the leaves as soon as about two-thirds of them have fallen, and then wait a week and take the cuttings. Currant shoots so treated will be more likely to grow than they would if cut later in the season. At the north they may be heeled in and planted in the spring, but south they do better if set as soon as made.—*Prairie Farmer*.

How to Grow Raspberries Successfully.

My manner of planting and cultivating Black Cap Raspberries is very simple and cheap. When I planted my experimental lot, I placed them in rows ten feet apart, and at intervals of eight feet in the row I planted posts. On these posts I nailed two strips of wood for a trellis. These strips were one by two inches in size, and the lower one was placed thirty inches, and the upper one four feet six inches from the ground. I planted the roots on both sides of the trellis and twelve inches from it on each side. They were placed four feet apart in the row and planted alternately, so that for every two feet there was a cane to be tied to the trellis.

As soon as the berries are all picked, I lose no time in cutting away all the old wood and removing it from the ground. The young canes are allowed to grow to a length of five feet, and are then topped out and tied to the trellis. For tying I have used twine, basswood bark and willow twigs. I find them all to be good, but would give the preference to the willows, on account of their cheapness and durability. After cutting back the young canes and tying them to the trellis, the laterals grow very rapidly. I allow them to attain a length of about two feet, and then check their growth by pinching off the end. This is all that has to be done to them for one year, at the end of which time they will have borne their fruit, and in their turn will be ready to be cut away to give place to the younger canes of the following season.

Experience has shewn me that the rows should be wider than ten feet for such rank growing canes. When the laterals have attained their proper length, and the bushes are loaded with fruit and foliage, the rows become so blocked up that it is almost impossible to move between them with any freedom. I have adopted fourteen feet as the proper distance for the rows to be apart, and plant and prune as previously stated. In describing this cane I should have stated that it is nearly as free from thorns as the purple cane, and is similar in color.

In order for the canes to grow to the best advantage, it is necessary that the ground should be kept moist and free from weeds. To effect this purpose, I mulch the ground with straw six or eight inches thick. I have never tried leaves, but have no doubt that they would answer the purpose fully as well. By this mulching of straw the ground always remains moist and the weeds are kept back, thus saving work with plow and hoe, and insuring a good crop of berries.—*Remarks of Mr. Littleton before Peoria Farmers' Club.*

Potomac Fruit Growers' Association.

This is comparatively a new society, or, at least, has only become prominent within a late period. An interesting discussion on blackberries and raspberries was held at Washington recently, and among other things said and done, Mr. Saul remarked:

If I were going into the blackberry culture I would not confine myself to any one, but would raise the Wilson, Kittatinny and Missouri Mammoth. There is none that is superior to all others. My experience, however, is that here the blackberry is not a paying crop. The wild fruit is so fine and abundant as to prevent the sale of the cultivated variety at paying prices. The Wilson is with me two weeks earlier than the Kittatinny.

Major King.—How does the flavor of the wild compare with the cultivated variety?

Mr. Saul.—The wild fruit is just as good.

Colonel Curtis.—The wild is the best.

Colonel Chamberlain.—In my neighborhood there are wild berries as large as any of these exhibited here, and very sweet.

Prof. William Saunders, of the Agricultural Bureau, remarked:—Regarding the varieties of the blackberry, I found in going through one meadow in Maryland, four distinct varieties; if anything, more distinct than any of those now in cultivation, and equally as good. It is wrong to confine ourselves to one variety. Persons have different tastes; then, too, they ripen at different times; and again, one might prove a failure. They do not do well on rich soil; the vines grow so luxuriantly that the wood does not ripen. In one case where they grew on the sod large crops were gathered. One gentleman planted in rich soil 48 Lawtons, training up two canes to a stake; the next year he had twelve bushels of fruit, but after that he did not obtain good crops. We have a great deal to contend with from unripened wood.

Prof. Howland.—Two years ago last spring I went out into the woods, and from different localities got some black raspberry bushes. I set out three rows in my garden, and when they came into bearing found a number of varieties, some of them being very fine, like the ever-bearing, while others were worthless. Altogether, at one picking, I obtained over three bushels from the three rows, 109 feet long.

Fall Planting of Trees.

One of the best ways is to plant *very early*. Do not wait for the fall of the leaf, but commence as soon as the first heavy fall rains have thoroughly loosened the ground. If the leaves have not fallen, strip them off. It is no more of an injury for man to do this in the day, when a frost may and often does do it the same night. If there be much soft and immature wood, cut this back, evaporation is much more easy through this part than the harder and more mature.

Another thing in favor of fall planting, will be the selection of warm ground. This will much favor the production of rootlets. In a cold, damp soil, the roots already on the tree will rather die than new ones produce themselves. This is particularly the case with some trees which do not make young roots freely in the fall. The tulip trees, oaks and the peach are familiar instances of this class. And again, he who would have the very best success with fall planting, must guard as much as possible against hot bursts of sun, or cold wintry winds; and thus he whose place is the best protected in this respect, will have the best of it over him who has not.

Some of our readers, we suspect, will wonder why we include the sun in our list of winter enemies to the fall planted tree. But we see how it is after a winter's experience. The southern side of the fall-planted tree is often scorched on that side. This is simply because the sun draws out the moisture there faster than the injured roots can supply it.

In favor of fall planting there is yet one item which we can seldom have in spring. This is in reference to the condition of the earth. It is often said that a wet day is good for planting trees, but this is a mistake. The pasty earth does not fit closely

to the roots, and the roots cannot well take up moisture unless they are in close contact with the earth. Hence a half-dry soil, that will powder finely when crushed, is to be preferred. Then every little root finds the powdering soil closing in about it; and it is almost as if the root had pushed itself in the ordinary way. It is a good thing in transplanting to have one man pounding with a rammer as fast as the earth is being put in. In the spring, what with rain and frost, the soil is not apt to be ~~as~~ friable, as gardeners say, as it is in the fall of the year.—*Gardener's Monthly*.

Fruit in Iowa.

Writing to the *Iowa Homestead*, Suel Foster, Muscatine, Iowa, says the Michigan strawberry, B. Hathaway's seedling, is a softer, richer berry than Wilson's Albany, and he thinks it will be a strong competitor with that for productiveness and profit. He prefers the Philadelphia and Miami raspberries, although the Clark does well with him. The Kittatinny blackberry is hardy and productive of large fruit. He is well pleased with the English cherry. His pears are over-bearing. The Bartlett stands first, the Flemish Beauty next. His grapes are also overloaded.

The New Grapes in Missouri.

Among the new grapes Walter has done well; foliage perfectly healthy; fruit of most excellent quality and very early ripening this season; the first of full fruiting along with Hartford and before Martha, Iona and some others. Martha is giving entire satisfaction. Iona not quite so fine as expected, but doing fairly; Goethe and Meramec are full of promise. Among those not yet fruited are New Haven Red and Vallees' White Concord, both doing well, fine healthy foliage and very short jointed wood. Hudson, a new white grape not yet sent out, is a beautiful vine with very fine foliage, and is doing very well so far. Eumelan is very healthy and thrifty, promising very well; the Herman is fully realizing expectations. The drouth and heat have been very trying on foliage, and some varieties have suffered considerably. Among those that have been conspicuously worthless with us are, Mary Ann, North Carolina and Creveling. The only point of vine in the Hartford, its earliness, has been very neatly laid on the shelf here, by coming into competition with points further south.—*Rural World*.

Strawberries on Bushes.

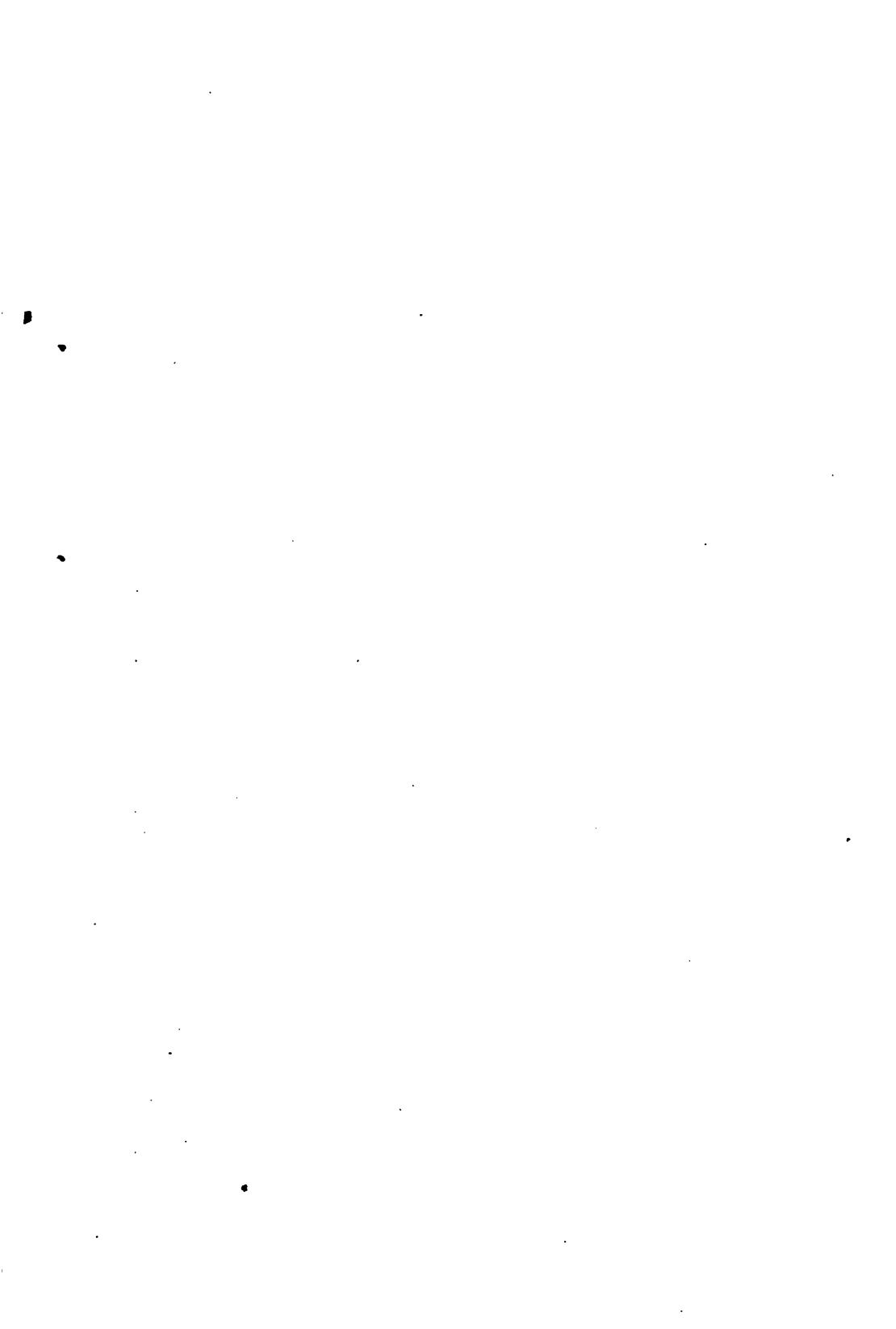
The editor of the *St. Paul Press* still maintains the existence of bushes at Pembina, bearing strawberries thereon. It is not a raspberry, as some one suggested, but a genuine strawberry,

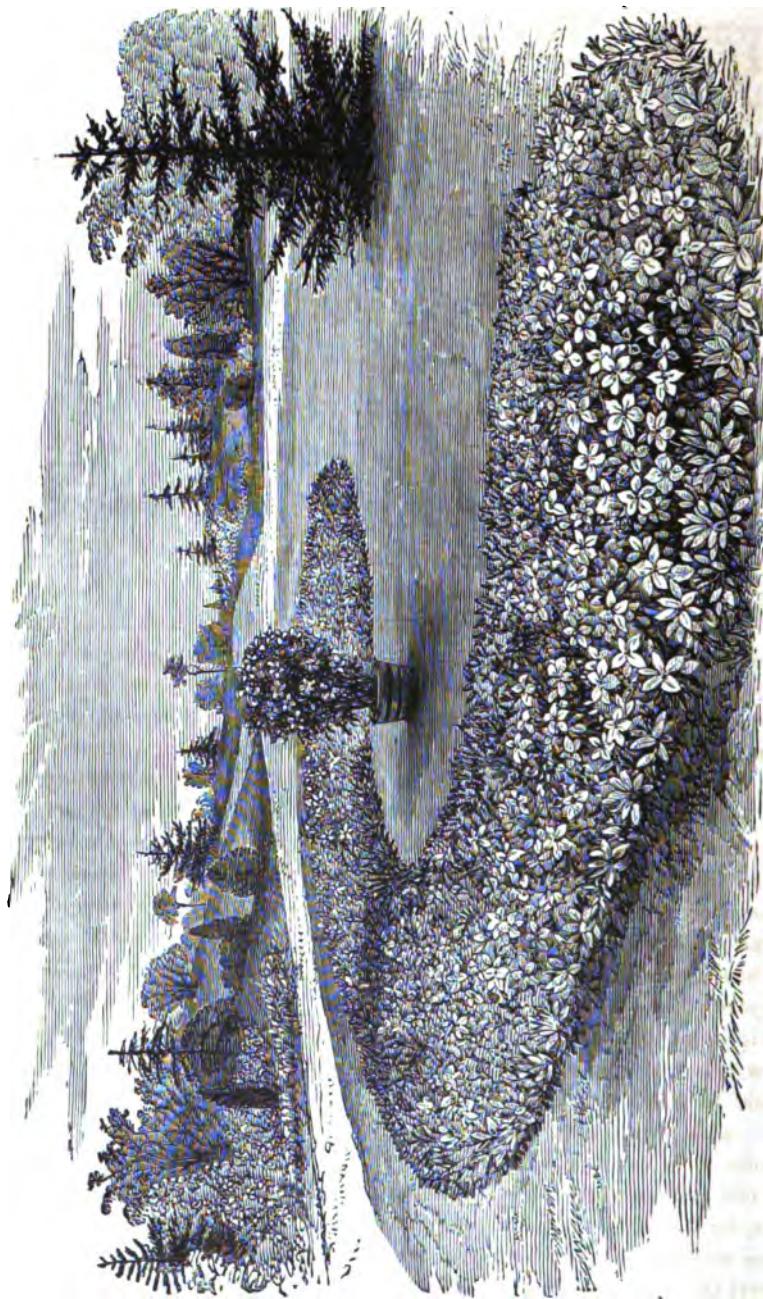
"The berry in question has not only the full flavor and form, but the stalk of the strawberry, and has nothing whatever of the raspberry about it. It is a misnomer to defer so far to popular parlance as to call it a bush strawberry, for it does not grow on a bush, but on an upright stalk; the only difference so far as we can recollect, between the stalk and the creeping vine, being that the former is upright and terminates in a group of stems supporting a cluster of berries. The stalk is in all respects a straw, like that of clover or the vine of the ordinary strawberry, and has no resemblance whatever to the woody fibre and bark of the stalk of the raspberry bush."

The editor has evidently got a white elephant and don't know what to do with it. The defense is a pretty bad one.

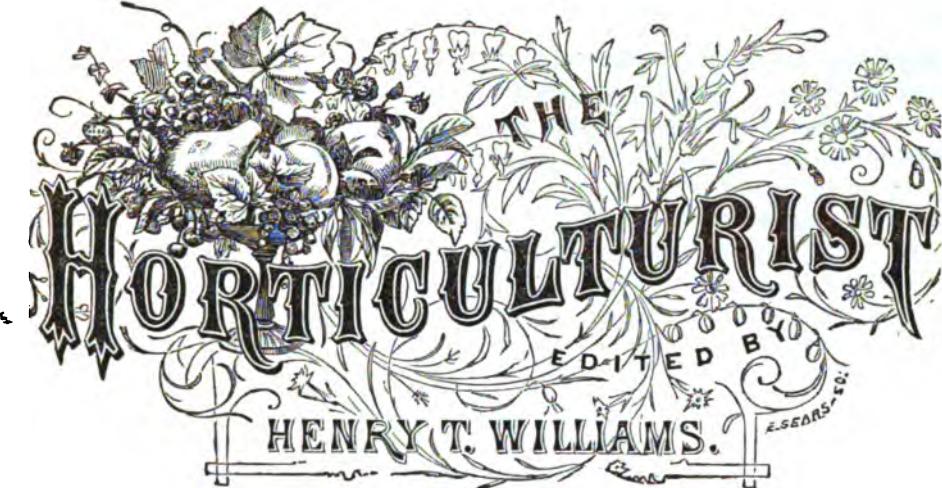
The Plowden Peach.

Specimens of this new peach have now been tested in Pennsylvania, and found to be ripe ten days before the Hale's Early—a good, distinct, delicious sort. At Washington, D. C., near where it originated, it is said to ripen twenty days before Hale's Early; but this is probably an exaggeration. The fruit is very much the same shape and size as Hale's Early, but lighter in weight, flesh white and remarkably juicy.





The Clematis for Decorative Purposes.



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Horticulture in the Far West.

Notes from Editorial Travel.

THE abundance of fruit in Missouri and Kansas is a constant topic of conversation and admiration by us all. In St. Louis, just as we were leaving, we were treated to luscious grapes and peaches as early as the 24th of July; and pears were in abundance on every fruit stand at strangely low prices. For instance, grapes were sold as low as 2½ cents per lb.; pears (Bartlett), at \$1 per bushel; peaches, 50 cents to \$1 per basket. The entire country around St. Louis, and particularly toward Kirkwood, is a succession of groves and vineyards, and the trees appear to hang loaded with unusual supplies of fruit. I notice that the trees bear at a very young age, fully one-half earlier than with our growers at the East. Apple trees we would at home consider too small, here are yielding a peck to a bushel to every tree, and in form and color such glorious beauties as would make a New York marketman smile. About ten miles out on the Pacific railroad, State of Missouri, Mr. Mason has a vineyard of twenty-five acres devoted almost entirely to culture for wine purposes. His crops will average about 12,000 lbs. per acre, or six tons. At the present low prices of grapes, if sold in bulk, he would average but 3 to 5 cents per lb., or \$360 to \$600 per acre, but very sagaciously he adopts another method altogether; with proper apparatus he converts all his fruit into wine, makes a good sherry, packs it in cases, and sells it at \$9 per case. His six tons of grapes will yield him 600 gallons, worth \$4 per gallon or \$2,400 per acre. These figures of profit stagger us, for we have nothing to compare with them in the East, and we would doubt them were not the facts before us, and account books to prove sales.

In general the soil and climate of Missouri are wonderfully congenial to the production of all classes of fruit. Such peaches as we saw would, both in size and beauty of color, more than excel anything we ever knew from Delaware, while the

grapes are noted all for their size and sweetness. The farther westward we traveled, the more frequent appeared the fruit orchards; and at Hermann, situated upon the banks of the Missouri river, we appeared to have reached the most thriving fruit center.

Fruit boys surrounded us on every hand at the station, and offered their peaches at ridiculously low prices, two and three for a cent; at this price, we emptied more than one boy's basket. Beyond Hermann we noticed occasional orchards, but not as old nor as frequent in number as near St. Louis. The summers of Missouri are constantly warm, with slight change of temperature throughout the growing season; and fruits of every description are developed in the most extraordinary manner. The grape is most noticeable for its luxuriance, and vineyards are portions of every farm, all devoted principally to wine making. I understand that prices are now very low. Col. Colman, who has a large fruit farm, the crops of which he expected would yield him \$30,000, will now yield him but \$10,000 in consequence of low prices.

Fruits in Kansas.

The excursion party were favored with a most entertaining banquet at Leavenworth, offered by the Kansas Agricultural and Mechanical Association. At this banquet glorious specimens of Kansas apples were freely distributed over all the tables. In size, I know of nothing that would equal them in any fruit region I ever visited, while for beauty it would be impossible to find words fit for description. I cut them open, but eat only one piece, and laid the rest down, never to eat again—juiceless, dry and without flavor. I was more fortunate, however, in other specimens, but I could not help expressing the candid conviction that such large size had been obtained at the sacrifice of delicate quality. I also observed that some of the larger fruit, placed the day before on the chandelier for display, had thus early begun to rot, and, in some instances, one-fourth of the fruit had already spoiled. This augured badly for keeping qualities; still the varieties were early, not good keepers, and the room was quite warm, and heated with gas; so one must not judge a whole country from a single apple. The general character of the apples I saw and tasted, was fine in beauty of form and color, yet lacking in juice. The texture is mealy and dry. I suppose I did not have a good opportunity to taste the best varieties, it being too early in the season. In the afternoon of the next day, we visited the grounds of several fruit-growers near the city, the principal one being that of Marcus J. Parrott. Here, upon high bluff land overlooking the city, and distant about two miles, Mr. Parrott has some specimen trees, which showed the capabilities of the soil and climate. Quite a large number of pear trees were bending down, very heavily laden, and in point of color, size and lusciousness, equal to the best we have ever witnessed; at the side of the peach orchard is a small vineyard, mostly of Concord grapes. One vine was noticeable for its breadth and prolificness. It was only four years of age from planting, yet its arms extended about forty feet, bearing the incredible number of 400 bunches. Many of the bunches were completely spoiled in consequence of the cracking of the berries; and indeed this is quite a common fault throughout the entire vineyard, more or less berries on every vine

being thus spoiled. We attribute the cracking of the skin to too *rapid growth*; the vines grow exuberantly, and seem impatient of restraint.

In another part of the farm is quite an orchard of apples; these had been cultivated in clover, and apparently did not suffer from the grass occupying the same ground. The trees were young, and seemed to be but four to five years of age, yet were full of fruit of most beautiful color, and superior size. Kansas has certainly not been over-estimated in the value of her soil or climate for fruit.

At Dr. Stayman's the novelty was witnessed of an orchard *never pruned, and always grown in grass*. We must admit its success here, for the trees were over-loaded with fruit, and the ground beneath was perfectly covered with fallen or decaying apples. The branches of the trees ran in every possible direction, wherever nature directed them in negligent confusion, yet such a sight of fruit is rarely witnessed by any orchardist in the country.

In other small farms and gardens near the city, we saw strawberry beds, grape vines and pear trees, all in good, thrifty condition. Considerable attention has been paid to small fruit, and it has proved quite a profitable occupation, growers realizing fifteen to twenty cents per quart, and the produce 4,000 to 6,000 quarts per acre. Pear trees grown in grass or out of grass are alike healthy and productive.

I saw few evidences of blight, and, to the credit of my friend Meehan, I must admit that every orchard or group of fruit trees grown West on the "*grass system*," as far as I saw them, were admirably successful. I should disagree with him as to the application of this method in any portion of the East, but in the West, on the *rich prairie soils*, I find it is a useful specific, and is attended with very few inconveniences or injuries.

Kansas is very well situated for the cultivation of fruit. Most of the soil is of a limestone character, and in such countries fruit trees are always successful, often pre-eminently so, for the color of the skins, and the size and perfection of form, are unmistakable evidences. But it is able also to command good markets. Hitherto Denver has been supplied entirely from California, at extravagant prices, but Kansas, now close at hand, is able to come in and offer its choicest fruit at one-half the price, and still be considered very remunerative, while Kansas City, Lawrence and Leavenworth, and other local markets will take all the fruit raised at remunerative rates.

Horticulture in Colorado.

Denver is a remarkable market for fruit. I was told by reliable parties that fully \$2,000 worth of fruit a day were sold there, and to judge from the frequency of the fruit stands, the estimate is not an exaggeration. Fruit stores are as frequent as news stands in the large cities, and often are seen adjoining each other several doors in succession. On one block fully half the stores were devoted to fruit. All of this fruit is shipped hither from California, and with its golden color, it is a most attractive sight. Nearly all kinds of fruit, plums, peaches, apricots, etc., are sold at the uniform price of twenty-five cents per pound. Pears are very fine, and will average two to the pound, or $12\frac{1}{2}$ c. each. Plums average five to the pound, and apricots three to four. Peaches same as apricots. The freight from Sacramento to Denver, is \$750

per car load, which is the principal cause of their high prices; from Kansas City but \$150.

Denver is a growing city, and business of all kinds thrives finely. Nearly all the inhabitants indulge in fruit, buying it as freely as we would candy or sweet things at home. Large quantities are shipped into the interior to the mining districts, and right in Black Hawk, the center of the most thriving mines and stamp mills, amid the crush of quartz and debris of mineral, I found a New York boy keeping a stand of California fruit, and who was so glad at our advent, that his joyful memory of the good, old days of the East, sufficiently impressed him to fill our pockets before he would let us go.

Gardening near Denver is successful, wherever the gardener can command a good supply of water. The Platte River is entirely unreliable, sometimes full, often dry. Ditches have been dug to the foot of the mountains, but occasionally the mountains are devoid of snow, and the supply is cut short, but this is not often the case. Strawberries are very productive and very profitable. A fruit-grower by the name of Dillon, who lives one mile from Denver, grows 2,000 quarts to the acre, and sold them at wholesale for forty-five cents per quart; they were then resold by the dealer at still higher prices. They begin at \$1.25 per quart, and rarely go less than 60 cents.

Potatoes are the universal crop of the Territory; every one grows them and every one makes money out of them. Mr. Dillon has raised as high as six hundred bushels per acre, and sold them for four cents per pound; this is at the rate of \$1,440 per acre. Can any Eastern gardener equal this? Of late so many potatoes have been raised that the price has fallen in some sections to two cents per pound wholesale, or \$1.20 per bushel. Nearly every kind of garden vegetables, except corn, will grow here finely. Water-melons and cucumbers, as fine as at the East, are frequent and delicious; beets are superb. Peter Magnus, the most successful vegetable grower in the vicinity, brought to our hotel specimens that would average twelve to eighteen cents apiece, and potatoes that would weigh a pound. The soil being drift from the mountains is full of mineral matter, of which potash is pre-eminent, and only needs irrigation to set everything going with utmost vigor. Agriculture here is prosperous in the highest degree. Most of the energy of the people has been devoted to trading, mining and stock raising—little to agriculture. A few sagacious growers have felt that the soil would pay better returns than the uncertainty of the mines, and every one who has tried farming or gardening, has been successful. Mr. Dillon said if he had forty acres he believed he could make \$40,000 in five years and he would put one man to every acre, and grow garden vegetables entirely. Colorado cucumbers sell for twenty-five cents each, and potatoes at retail, $3\frac{1}{2}$ cents per pound. The population of Denver is 8,000, and the increase of houses has been 33 per cent in eight months, still the area devoted to garden products does not increase in like ratio, and the supply is behind the demand. I know of no place with better opening for young, enterprising gardeners, farmers or tradesmen, than here. Wheat crops average forty bushels per acre, and oats sixty. Tomatoes are plenty, yet never sell for less than \$1 per bushel.

An instance was related to us of two young men who had only a capital of \$500

between them. They selected a small lot of ground on the road between Denver and Golden City, irrigated it, and planted in vegetables; they had good opportunities to sell, either to the miners as they passed along the road toward the mountains, or in the city of Denver itself. They were successful from the very first, and to-day, less than five years from the beginning, they own 320 acres each, and are making \$5,000 per year. Cabbages are very profitable, and as an instance of their profits, I may state that Peter Magnus sold, from one acre, \$1,900 worth in one season. Upon the ground of Mr. Bearce, President of the Colorado Agricultural Society, I saw quite a nice little vineyard of grapes, mostly Concord, three years old, generally in good health, still the fruit was a little cracked, and the berries considerably smaller than with Eastern growers. Horticulture is as yet an experiment in Colorado. Experiments are but one or two years old, and but little definite is known; still progress is very encouraging. My readers must remember that Denver is nearly 6,000 feet above the level of the ocean, and located upon a treeless plain, with no green thing in sight save the vegetation of private gardens. To grow vegetables under disadvantages like this is success indeed. We observe in private grounds quite a large number of ornamental trees planted. The cottonwood is especially pre-eminent, and uniformly a vigorous and quick grower. It must, however, be irrigated, or it will not live. Apple trees have been planted in some grounds, and we must admit this year's growth displays the handsomest and smoothest bark we ever beheld on any apple tree, young or old. If protected by boards from the hot rays of the sun from the South, they will stand the winters admirably; the protection needed is not from the North, but from the South, against extremes of heat.

Gardening, in Colorado, I look upon as successful already, but the culture of standard fruits is very doubtful and risky. The judicious planting of trees everywhere, and the raising of groves or belts of timber, may sensibly ameliorate the climate and help fruit culture very materially.

H. T. W.

DENVER, *Colorado Territory.*

A Beautiful Flower Farm.

THE following account of Mr. C. L. Allen's flower farm, near Queens, Long Island, is given by the editor of *The Observer*. Most of our readers know, that this is the largest flower farm in this country, devoted specially to lilies, gladiolus, tuberoses, and bulbs, generally. The grounds occupy about fifty acres of fertile garden soil, very fine and mellow:

At one corner of the farm we found an extensive plat of peonies, embracing over one hundred and fifty varieties, all in full bloom. The sight was gorgeous. Almost every hue and color—from crimson to white, “ring streaked, speckled, spotted and grizzled”—beamed forth from the rich velvety petals. Some of the finest lilies that

Japan affords find a congenial home in this beautiful soil of Long Island, and some that rarely perfect their seed, developed a full crop last season; and the kernels were allowed to fall at pleasure into the bosom of mother earth, where they remained during the winter, and germinated the former part of the growing season. Tuberoses and gladiolus, and extensive varieties of other flowers, flourish here in beauty by the acre. The leaves of every flower and tree seemed more like thin leather than the breathing organs of growing plants, showing, conclusively, that there is a wonderful congeniality of both soil and climate to the production of both flowers and fruit.

Value of Stable Manure.

Large quantities of coarse manure are obtained from the city by railroad, which is dropped from the railroad cars about half a mile from the farm. The manure costs, delivered at the station, over \$1.50 per tub, equal to about eight bushels, which swells the expense to some five or six dollars per cord for coarse manure. Tillers of the soil understand the great value of manure so well that they feel warranted in paying the enormous prices alluded to. Yet, much of this high-priced fertilizer is not half so valuable as the tons upon tons, which a great many farmers, remote from large cities, allow to waste away every season. Flowers, as well as garden vegetables and field crops, need the stimulating influences of rich manure; and horticulturists and floriculturists have learned, that no fertilizer is preferable to good composted stable manure for flowers, vegetables, or for fruit trees. The flower plots are thoroughly enriched with some sorts of fertilizing material. Mr. Allen esteems red clover as a fertilizer of the first quality for all sorts of flowers.

How to Make Large Flower Baskets.

In several places in Mr. Allen's grounds were large flower baskets resting on the top of a stump of a tree, which had been cut off three or more feet from the surface of the ground. A few stakes driven into the ground, or a small log placed on one end, would answer the purpose of a stump. A large wire basket was then made in the following manner: A wire ring about four feet in diameter was made of a rod—say one-fourth of an inch in diameter—which is secured about one foot above the point occupied by the bottom of the basket. Another ring about one foot in diameter is prepared for the bottom of the basket. Then smaller wires—say one-sixteenth of an inch in diameter—extend from the small ring to the large one, for the sides of the basket. The side wires are all cut off a given length, with an open eye at each end to receive the two rings. The side wires are bent of a uniform curve, so as to give the basket a swelled form. As fast as the open eyes of the side wires are attached to the bottom ring, and to the ring that represents the rim of the basket, the ends are bent around with pliers. With a few dimes' worth of galvanized wire one can make a large basket in about one hour, that will last many years, especially if it be housed after the growing season is over. These large baskets were lined with moss, filled with rich earth, and were the receptacle of several species of beautiful flowers, all in full bloom. Mr. A. estimates that he has now growing over 750,000 tuberoses, and an unknown number of Japan lilies.

A Choice List of Azaleas and Rhododendrons.

THE finest collection of Azaleas in America can be found at the nurseries and greenhouses of Parsons & Co., Flushing. Those kept in the greenhouses were in full bloom in April, displaying a most gorgeous combination of colors. These were the *Azalea Indica*—a class of plants specially adapted for conservatories. Mr. Trumpe, the skillful propagator, who loves his Azaleas as dearly as a child, gives us a list of the very best varieties named below. Those *starred* are of extra selection out of a list of 150 varieties:

**Adolphe de Nassau*—Large, rose color; a free bloomer, and a standard variety.

Amarantina—Rosy purple.

A. Borsig—Double white; fine.

**Bernard Andrea*—Splendid, rose color; very large bloom; unusually fine.

**Coloris Novo*—Superb crimson.

Criterion—Bright salmon; distinctly spotted.

Delicata—Rose color; every one likes it; very popular with amateurs.

**Duchesse de Nassau*—Large, dark rose; shaded violet.

Eulalie Van Geert—Large, carmine; variegated.

**Flag of Truce*—Double white; extra fine form.

**Gem*—Dark salmon; exquisite; clear.

Grande Duchesse de Bode—Large, salmon and rose; fine form.

Marie Vervaine—Variegated; crimped; extra white stripes.

Minerve—Scarlet; extra profuse bloomer.

Modèle—Very fine, rose. *Modèle de Marque*—Splendid form, rose. Both of these are indispensable for every collection.

Prince Albert—Large flower; rose; old, but has a splendid habit of growth.

Punctulata—Splendid, variegated; early bloomer. *Punctulata omnicolor*—Splendid, variegated; early bloomer. Both valuable for early forcing purposes.

**Reine des Roses*—Red rose; extra bloomer.

**Roi Leopold*—Splendid form; scarlet and crimson on the petals.

**Rosca elegans*—Fine rose; extremely brilliant color; overflowing with bloom.

**Souvenir du Prince Albert*—Rose and white; a new and splendid type, with variegated petals.

Stella—Scarlet, with purplish eye.

Vittata crispiflora—Variegated.

Vittata punctata—White, spotted with rosy purple.

Ghent Azaleas.

This is a class for lawn decorations, or borders in the background, for a brilliant show. They are very hardy—thrive in any good, warm, loamy soil, and are perfectly overflowing with their exquisite bloom in early June. Here is a list of choicest varieties:

Aretheusa plena—Dark orange.

**Baron George Pike*—Large, orange.

Bicolor—Orange; yellow and white; superb.

- Calendulocea coccinea—Orange, scarlet.
 Calendulocea elegans—Fine; orange, scarlet and white.
 Coccinea grandiflora—Scarlet; larger than above.
 * Concinna—Dark orange.
 Cardon—Light orange.
 * Cruenta—Scarlet; fine.
 Elegantissima—Pink; late.
 * Graf von Maran plena—Fine, rose.
 Honneur de la Belgique—Crimson, dark.
 Lateritia stricta—Salmon.
 Monstrosa conspicua—Orange, scarlet.
 * Narcissi flora—Splendid, yellow.
 * Ne plus ultra—Extra, orange.
 Penicellata stellata—Straw color and salmon.
 Plumosa—Light orange.
 Pontica bouquet de flora—Pink and white; fine.
 Pontica globosa—Yellow, with white center.
 Pontica imperialis—Yellow; large.
 Præstantissima—Large, orange.
 * Punicea—Crimson, scarlet.
 Radicans—Crimson.
 * Viscocephalum—White; very fragrant.

Azaleas for Window Gardens,

The use of Azaleas for window culture in pots has, as yet, not been often referred to by our horticultural writers; yet, the idea is a most pleasant one. What can be more delightful than an entire window filled with thousands of crimson blossoms, from pot after pot, or raised stages toward the top? The only thing necessary in their culture is to provide a suitable soil. The best for this purpose is a mixture of two parts loam, rich, vegetable matter; two parts rotten peat from the swamps; one part sand. Take good care for perfect drainage, and use no manure. These are all the directions necessary. These plants during the winter should be put in the cellar. About the beginning of February they may be brought nearer the light, and a few weeks afterward carried up to the window garden. Here they begin to bloom at once, and last about three weeks; some of them six weeks. After they have done blooming they may be removed, and new ones be brought up again from the cellar, and thus the blooming season is extended over several months. The following is a selected list of those most suitable for window purposes:

- Amaena—Very early.
 Amarantina—Rosy purple.
 Belle Gantoire—Rose and striped with white.
 * Charles Quint—Rose.
 Criterion—Bright salmon; distinctly spotted.
 Delicata—Rose,

Exquisita—Variegated.
Indica alba—White.
* Fielden—White; very early.
* Minerva—Scarlet; profuse.
Modèle de Marque—Splendid form; rose.
Grande Duchesse de Bode.
Iveryana—White, striped with rose.
Perfection—Rose; good form.
Vittata—Variegated.
Vittata crispiflora.
* Punctata—Splendid, variegated.
* Punctata omnicolor—Early bloomer.
* Narcissiflora plena—Six weeks in bloom.
President—Scarlet.

List of Rhododendrons.

We are also indebted to the same source for the following selection of choicest, hardy varieties:

Album Elegans—A large, white flower; plant exceedingly well adapted to standards.
* Bertie Parsons—Lilac blush.
* Bicolor—Dark rose color.
* Blandyanum—A very bright cherry; one of the best.
* Candidissimum—The best pure white.
* Everestianum—Rosy lilac, with crimson petals and yellow eye; very fine.
Giganteum—A rosy crimson with large truss.
* Grandiflorum—A deep rose, inclining to crimson; is an abundant bloomer, and one of the most valuable sorts.
* Lee's dark purple—The very best of its color.
* Purpureum elegans—Purple, fine and showy.
* Roseum elegans—Rosy tinted; fine.

The above lists will be found valuable for future reference by all who intend to plant—as the selection has been carefully pruned down to ten of the very finest of each class. No one who has planted either Rhododendrons or Azaleas freely, has ever failed to reap abundant satisfaction.



Pencil Marks by the Way.

BY OCCIDENTALIS.

A Western Strawberry Report.

I HAVE two cases of strawberry culture here in the west, which I desire to report. Probably neither of them present any extraordinary points to experienced fruit growers, but they are certainly remarkable as showing the difference between different modes of cultivation. The first case proves that a little care and skill, properly applied, will produce favorable results; the latter demonstrates that more care and skill will pay in a proportionate degree. They both came under my own observation, and I am familiar with the mode of culture in each case.

Neighbor A. had a tract of one hundred and twenty square rods of ground—just three-fourths of an acre. The soil is a light hazel loam, overlying a limestone clay, and with a small admixture of sand. It had been cleared and cultivated about two years. This was planted, in the spring of 1870, with Wilson's Albany plants, at distances of about eighteen inches in rows of three and a half feet apart. The culture consisted of one or two dressings with the hoe and as many plowings during the summer, and no mulching or other protection during the winter. The first portion of the summer was extremely dry, hence they made no runners till late in the season; but the rains of July and August started them vigorously, and the tract became nearly covered with fine healthy plants. In the spring no other attention was given them than a slight hoeing and a pulling of the weeds.

From this tract he picked and marketed fifty-six bushels, and consumed at home about four bushels—in all 1,920 quarts. This is at the rate of eighty bushels per acre.

The fruit was sent to market (unassorted) in the Beecher quart baskets, and sold at prices ranging from twenty-five cents down to eight cents per quart—averaging a little less than ten cents. The picking cost two cents per quart.

Neighbor W. had a small tract of five square rods—just one thirty-second part of an acre. From this he picked *three hundred and fifty quarts*—or seventy quarts to a rod—footing up to the respectable sum of three hundred and fifty bushels to an acre of ground. Whether the same ratio could be maintained for a larger tract, is a question. Yet it would seem that what can be done on one rod or on five rods of ground, could be done on ten or a hundred, provided the same care and culture is given.

The culture given by Mr. W. was different from that given by Mr. A., in that it was much more thorough during the first season after planting, and that the plants were well mulched with forest leaves in the fall. The culture had given them a good supply of roots, and brought into being the germs of numerous fruit stalks; the mulch of leaves being just what was requisite to maintain them in the best condition. It is hard to conceive that different degrees of culture would produce such different results; yet so it is—as the soil in the one case was very similar to that of the other.

One other fact should be named—*the ground of Mr. W. had been sub-soiled*, that of Mr. A. had not. The first case shows quite a satisfactory result, especially for this section, where fruit culture has not been reduced to a science.

If, however, it can be shown that an expenditure of twenty or twenty-five dollars in labor and mulching material, for each acre, can produce so much difference in the result and the consequent profit, it certainly is a weighty argument in favor of that expenditure.

A word on mulching material: Forest leaves are undoubtedly the best; probably cornstalks are the next best. Straw, of wheat, rye or oats is first-rate simply as a mulch, but is objectionable on account of the weed and grass seeds it contains. Bagasse, from the cane mills, is liable to smother the plants.

Banks of the Mississippi, June, 1871.

Among the Flowers; or, Gardening for Ladies.

BY ANNE G. HALE.

VIII.

Dried and Preserved Flowers.

THE perishability of flowers is a great hindrance to their more general use as articles of personal adornment, or for home decorations. Many times are miserable counterfeits of silk, cambric and *paper* substituted for the real presentment, because even the most hardy soon wither when subjected to much handling, or to a close atmosphere. And then flowers cost so much—every blossom represents a great deal of time and money, even if we raise them ourselves—that few persons can afford the indulgence very often of such short-lived ornaments. If, like pictures, they held up their bright faces week after week, and month after month, with no diminution of their attractions, the expense would not deserve a moment's thought. But, when beside this, we incur the sadness of witnessing their rapid decay, we are apt to reflect a good while before putting them to such use.

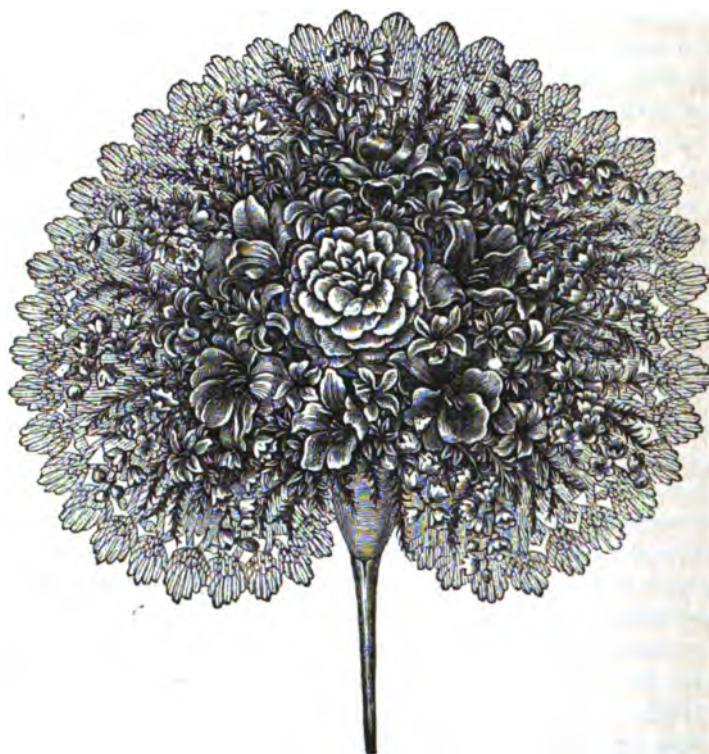
Flowers, we all know, do not sequester their charms for the sole benefit of the individual who possesses them, even during their brief existence, so when on extraordinary occasions, by dint of economy in other matters, we do gratify our companions as well as self by surroundings of floral beauty, we would fain retain a *souvenir* of the event, as many a heap of shrivelled and brown petals, just ready to drop to dust, that once were fresh and fair, hoarded carefully among valued relics, can attest. Again, when love and friendship find most fitting expression through the voiceless lips of flowers, how reluctantly they are yielded to decay—how much is done to lengthen to the utmost their fleeting lives; and when all traces of life have left them, how, like so many mummies, they lie in their lonely sarcophagus—the time-stained and tattered letters that accompanied them. And when the myrtles and white lilies of death that have lain in the ice-cold hand now mouldering under the daisies, made sacred by that touch, have been reverently rescued from the grave for a few brief days, how jealously are they guarded from harm, with what affectionate solicitude—almost as if they were the embodiment of the departed—expedients are resorted to for setting far-off their final relinquishment to the fate of all earthly things!

But this iron law, that, governing mortality, has laid its rigorous hand so heavily on the floral world, may, in a measure, be set at defiance; just in the prime of their loveliness, bud and blossom, leaf and tendril can be so changed in tissue, and yet retain their original appearance and individuality, as to be in a certain sense incapable of decay.

Flowers prepared in this way are in great request for floral decorations of all sorts in England, and the fashion is already on the rise in this country. Florists have collections of dried and preserved flowers on sale, or, if a customer prefers to furnish the flowers, will get them done to their order by some person in their employ. But high prices are charged for this work, twenty-five dollars and upwards are often paid for preserving a funeral wreath. And yet it is not an expensive nor a difficult pro-

cess. Any lady will find it an agreeable diversion, as fascinating as painting, and less unhealthy; while the cost of materials, not counting the price of the flowers, is trifling.

The first method of preserving flowers is by preparing them to present a flat surface, with their colors undimmed, resembling a painting. This has been a favorite style of making funeral wreaths and bouquets durable mementoes of bereavement; and, until the last few years, the only method practiced in this country. Dried in this manner, flowers are employed in Europe for many purposes of ornamentation.



Our engraving shows a lady's fan, to be used at the theatre, or in the ball-room; when not in hand, to decorate the chimney-piece. The flowers upon this are preserved in a flat position, and are fixed with gum tragacanth to the material of the fan. The best material to arrange dried flowers on is card board. It may be covered with silver paper, or delicate black or white lace, according to fancy. To this the flowers are gummed in any design; this fan simulates a bouquet. Green leaves, except those of the laurel family, lose some of their brightness, even with the best management, and, unless resort is made to artificial tinting of their surface, cannot be used with preserved flowers. Hence, lycopodium and moss that retain

their brilliancy so long, are the verdure most frequently introduced, as little as possible being admissible. The design completed should be set in a dark, airy room to dry for a day or two; then lace of the same sort that lies beneath the flowers must be spread over them and gummed at the edges; a neat edging of the same, or a small silk fringe, being affixed in the same manner, as a finish.

The requisites for drying flowers to present this uniformly flat surface are a quantity of clean white paper, light and soft, with an undressed face (such as cheap books are made of), two covers of wire cloth (sheets two feet long and one and a half feet wide, their edges bound with a narrow strip of zinc), two stout leather straps with buckles, a paper knife, or a small wooden spatula and a camel's hair pencil.

The flowers must be freshly gathered; buds and half-blown blossoms are best. When wide-open flowers are used it must be in the first hours of their expansion. A thick bed of smooth layers of the paper must be made, resting upon one of the covers. For small flowers, half an inch deep of the layers is sufficient; for roses, japonicas, and other large and double flowers and their buds, an inch will be needed; this is to absorb the moisture. Upon this bed lay the flowers, without crowding, in a natural position, using the paper knife and hair pencil to arrange the petals, the sepals and the stamens and pistils with great care. If possible, none but flowers of similar size and appearance should occupy these drying sheets at once; never admit but one color at a time, else there is danger of dimness or discoloration. When all are smoothly arranged lay a bed of the same thickness of paper upon them, place the other cover, and make all tight and firm by means of the straps and their buckles. Suspend this in the sun and air—out of doors is best; if in a light breeze the drying is hastened. The smaller flowers will dry in six or eight hours of summer sunshine. The larger often require two days. They should not be removed from the drying sheets till all moisture has left them. Then take them carefully with the paper knife or spatula to a clean sheet of stiff white paper, and keep from dust and moisture till they can be wrought into the intended design. The outline of the design should be drawn in pencil upon the card-board it is to occupy. Within this, brush lightly gum tragacanth of the consistence of mucilage. Place the flowers thereon, and gently touch them here and there with the tip of a dry camel's hair-brush to affix them. Put no gum upon the flowers or the leaves, or other verdure that accompanies them; the gum must only be applied to the card-board. When glazed and framed these floral designs make handsome cabinet pictures.

Flowers dried in the fullness and symmetry of natural form, with their colors as brilliant as when living, are available for all sorts of ornamentation; for the most experienced eye can scarcely detect the least difference between them and freshly gathered blossoms. In all their flowing lines of grace, leaflet and bud curving and drooping as when attached to the parent stalk, they may be seen in the accompanying engraving, where, with crystallized grasses commingling their lustres, an elegant *coiffure*—ladies' head-dress—is represented. It is a very tasteful and becoming affair, designed for evening full dress.



The articles needed for drying flowers in rotundity of form are, river, lake or sea sand (this is called white sand, it is sometimes of a bluish grey tint), a wire sieve with a wooden cover to fit its base, a paper knife and a camel's hair pencil. The flowers for this method of preservation, as for flat drying, must be freshly plucked, and without dew or any other dampness. Everything about this work must be thoroughly clean. The sand must be rubbed and rinsed in clean water till the water flowing through it is as clear as that from a well. Then put it in clean crockery dishes to dry. It must be perfectly dry and just blood-warmth when the flowers occupy it.

When the sand is of the right temperature, close the cover over the base of the sieve, and pour it in till it fills the whole space beneath the wire cloth. Place the flowers in an upright or natural position by inserting their stems in the apertures of the wire-cloth till they rest firmly in this sand below. Do not crowd them, nor, if sprays or panicles are dried, let the flowers overlap each other to injure their form. Fold a sheet

of stiff white paper to make a cone-shaped tunnel, and pour the warm sand through this around and under and within the flowers. The cone should be folded to give the smallest possible stream of sand, and it must be poured with great care and gentleness, especially within and among the heliotrope florets, and the heaths and other small flowers. It is a slow and careful operation. Within the bells of mahernia, among the spireas, deutizias, acacias, verbenas, lantanas, bouvardias, and the like, special attention must be given to cause the sand in falling to fill all vacancies and to support every portion of the flower correctly. The sepals and corolla of fuchsias require nice management, or, rather, patience enough to allow time to pour the sand properly. Roses and japonicas also must have a particular pains given to preserving the curves of their petals; sometimes the edge of the paper knife or the tip of the hair pencil is needed to hold or raise them while the sand is poured under and upon them to effect this. After filling in and under and around the flowers, sand must be sifted over them, warm, to the depth of half an inch. Then set the sieve where it will keep the temperature of 70° steadily, till the flowers are dry. The smallest flowers will dry in six hours; but the large, full sorts, with thick petals, require ten, twelve or more to get thoroughly dried. For this reason those of about the same texture and size should occupy the sieve at one time. When it is reasonable to suppose that the flowers are dry, take the cover from the base of the sieve, and the sand will fall through the wires, leaving them as perfect in form as those in the bouquet here pictured, their colors as fair and bright as when placed in the sieve, yet dry and rigid. Leaves should be dried entirely by themselves, the thin and delicate sorts alone, because they are soon siccated; and the

thicker ones also require to be treated separate from others. The foliage of the myrtles and laurels give the best satisfaction; the more flexible and succulent species lose some color and often need to be superseded by moss or lycopodium.

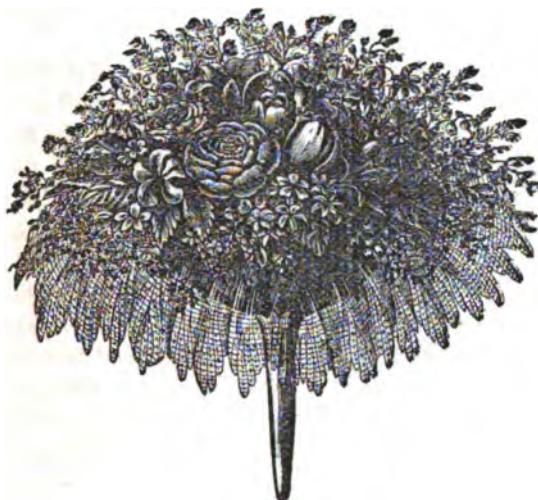
When both flowers and leaves are dry they may be clustered and tied like fresh ones in garlands, crosses, bouquets or any other device; and as they need no moisture to keep them in fair and life-like appearance, are very desirable as grave decorations. In our illustration grasses are lending their airy grace to the group. A fall of lace paper to finish the setting gives elegance to this form of bouquet, which would serve admirably for a mantel vase, as well as for the hand, and could be made a handsome ornament for suspension. Baskets of flowers dried in this manner are

very effective hanging in an arched doorway or window; and nothing more beautiful can be designed for the dinner-table than an epergne filled with an assortment of these flowers tastefully arranged; while as wall-decorations, bouquets or wreaths composed of a handsome variety, well contrasted, gummed to cardboard and then glazed and framed, lend a summer-like aspect to any apartment, and are a perpetual delight.

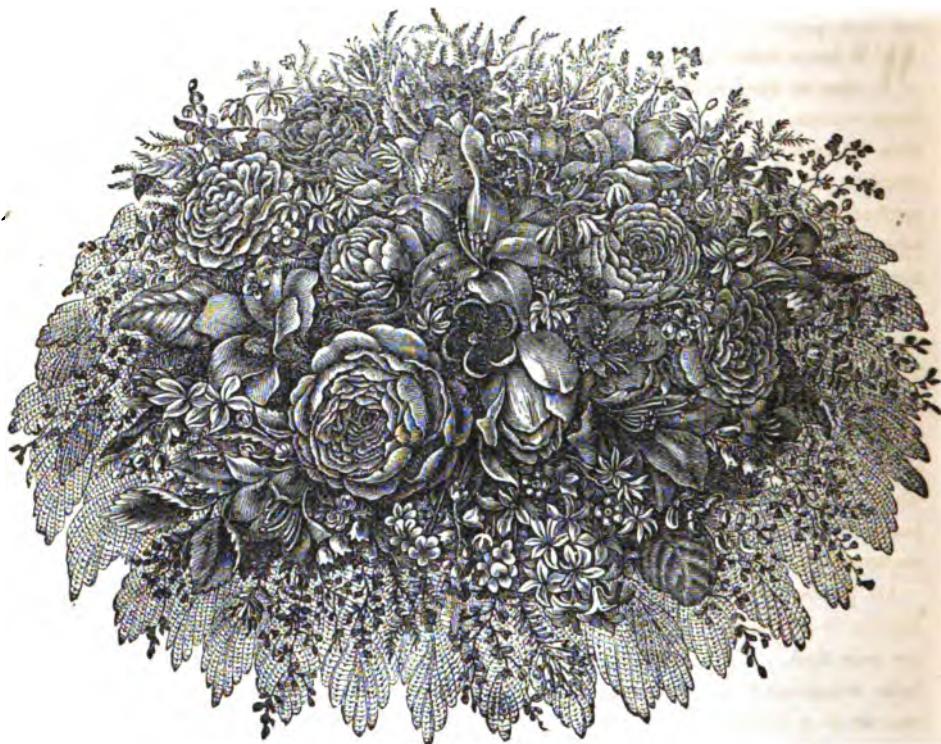
Preserved flowers, properly speaking, are these dried flowers coated with wax, stearine,

or paraffine. They closely resemble wax-work, but are less expensive. Of course the talent that is required for success in making wax-flowers is not needed for this work; only a certain tact and skill, gained almost wholly by experience, in manipulating the flowers, and in using the coating material.

When flowers are to be *preserved* they must first be dried in warm sand as directed above. Then melt white wax, stearine or paraffine—paraffine is preferable—to a fluid state, in a clean bowl, which rests in boiling water. Keep the water hot over a spirit-lamp, gas-jet or the stove, and then the fluid will be in right condition. Have the flowers conveniently near, in a flat dish, on which they can lie while the calyx and under part of their corolla is coated; apply the melted paraffine with a camel's hair pencil, with light, careful touches and strokes. When these portions are nicely covered—just as little as possible of the coating must be used, yet all must be covered—take the flower by its stem in your left hand, and with the pencil drop the liquid paraffine in and about the various divisions, letting it flow as it will, but not enough to obliterate the finer parts; and then with quick, gentle touches finish the remainder of the flower. Proceed in the same way with the buds and the leaves



When the color of the leaves is unsatisfactory, some persons color a little paraffine with paris green, and coat them with that. There is danger of making flowers and leaves too clumsy if the paraffine is not in a fluid state. Be sure to guard against this; and take care not to dim or hide the colors by too liberal applications of the fluid; there is less danger of this with paraffine, than with wax, because it is of a more transparent nature.



Our engraving represents a group of these flowers arranged as a table decoration, with a fall of lace or of lace paper to droop over the edge of the epergne. They are very handsome for this purpose. Harps, crosses, wreaths or bouquets, composed of these preserved flowers, are very beautiful, but they need shielding or screening from the dust as much as wax flowers do. It is best to enclose them within a frame with glass front. Even with blossoms eternalized in this way lycopodium and moss must be used to fill vacancies between and among the flowers and buds.

Although when nicely done, these *preserved* flowers are elegant, and can withstand the influence of moisture, drought, cold, and a good degree of heat, yet those who prefer nature in her simplicity, will choose only the process of drying (the second method) for eternalizing their floral treasures; which, if not perpetuating their charms for a lifetime, as the last method does, yet renders them permanent for several years,

and with careful shielding from changes of the atmosphere, by enclosure in an air-tight frame under glass, they may display their beauty for a still longer period ; so that mother's bridal wreath may challenge comparison with Mary's, and Tom's button-hole bouquet may be stolen from his grand-mother's Mayday garland.

Fruit at the West.

WE have had a very fruitful season. Although the apple crop has not been a large one, it has been more than an average, and the fruit unusually fair and free from worms. This is the reverse from what we might have expected, last year and this being unusually warm and dry seasons, we might have expected such seasons productive of insects. I have pastured my orchards with hogs, but my neighbors' orchards not pastured, are also comparatively free from the codling moth. It is observed by most of us, that whilst we have a full crop of most of our summer varieties, many of our winter varieties are quite short.

I am of opinion that we Western men have been too afraid of high cultivation of our orchards. It is evident that our fruit trees do best on our thin oak soil, and if the rest of our trees could talk *they would tell us why*. Let us get down to the root of the tree and see what is the matter. This will be a subject of further investigation by me, and my conclusions will be only suggestive and not of binding force on the rest of the world. Suffice it to say here, that the roots, not only the "spongioles," but all the rest of our fruit trees must have a certain degree of compactness, porousness and freeness, touching every part of the bark of the roots, and giving moisture to every part of the roots as well as the "spongioles."

Of pears, I never saw a more beautiful crop, nor finer fruit, and so early that our Bartletts are nearly gone the sixth of September, and our White Doyennes and Seckels ripe. My neighbor, Gen. J. G. Gordon, was bragging about his large Bartletts weighing 8, 12, and one up to $15\frac{1}{2}$ ounces; I went home and took down from the shelf a Flemish Beauty, in a decaying state, and some of the juice lost, and it weighed $15\frac{1}{2}$ ounces. This weighed fully a pound when perfect.

The market price of pears in the city of Muscatine, is \$3 per bushel for best; \$2 for common; apples 30 to 50 cents; grapes 3 to 4 cents per pound.

Grapes.—We are surfeited with grapes; the air is actually perfumed with their fragrance as we pass along the roads; Concords mostly, though we have some other varieties doing quite well. The Northern Muscatine appeared in our market quite plenty, and sold readily a little higher than Concords, for its sweetness, which outdoes its fineness a little. Some of the Rogers are doing well; No. 15, No. 4 and Salem, I am well pleased with. No. 1 is now ripening the best of all, and its usual season was as early as September 10, but in this climate it is usually too late. The Ives is very promising for an early grape, seven to ten days earlier than Concords. I have fruited the Martha this year, and am well pleased with it.

SUEL FOSTER.

Muscatine, Iowa.

Horticulture on the Delaware Peninsula.

IN the middle of August, a small company of eastern horticulturists spent a week very pleasantly in a visit to some of the fruit farms of the Delaware Peninsula—among them were Charles Downing, Geo. Thurber, P. T. Quinn, William Parry, Randolph Peters, and Howard M. Jenkins of the *Delaware Tribune*.

The first fruit farm visited was that of Randolph Peters; three miles from Wilmington is his residence and also his nursery, but his orchard is located at Newark, about fourteen miles to the west. Here upon the slope of a hill is a pear orchard of ten thousand trees, the soil is stony, yet well drained, and position elevated overlooking the county southward and eastward. The pear trees were planted nine years ago, about half standards and half dwarfs, the standards twenty feet apart, and a row of dwarfs every ten feet. The spaces between the trees have been cropped with corn regularly every year since the orchard was planted, and well manured with rotted barnyard manure. Thirty or forty varieties are grown, but the most successful varieties were Buffum, Seckel, Bartlett, Duchesse and Lawrence. The trees have done admirably, and with such apparently negligent treatment (yet Mr. Peters says it is the best to prevent blight), they have out-borne themselves with heavy crops of fruit yearly. The crop of Bartletts would average, tree after tree, twelve ounces to each pear, and in the opinion of Mr. Quinn, who had seen the same varieties in California, nothing there would equal these Delaware Bartletts in size and beauty. The Lawrence pear, both in growth of tree and size of fruit was thought to be unusually successful, trees of six years' age fully showing as vigorous a condition and as large a size as those trees of twelve years' age nearer New York.

Pear Orchard on the Grass System.

On the grounds of the Agricultural College Farm at Newark, is an experimental farm and fruit garden under the direction of Prof. E. D. Porter. Here is a pear orchard of one thousand trees, planted ten years ago. The ground was very thoroughly prepared and trees rightly planted. Since that time they have been cultivated entirely and literally in correspondence with the system of "grass cultivation," advocated in *The Gardener's Monthly*.

The entire orchard was permitted to run into grass. It was cut several times every year, and allowed to rot on the ground. In addition to this, a good supply of well-rotted barnyard manure was spread over the land as an annual top dressing, and pains taken to secure a good, vigorous, healthy growth as far as possible.

But notwithstanding all this, the trees have in large measure died. More are dying, and of those that are left, the fruit is small and inferior. Prof. Porter considers the "grass system" a failure for any orchard. Ten years of experience entitles him to speak with authority, and he will plow up the soil this Fall with hope of saving the balance left alive. There is a fine vineyard in connection with the farm, and out of a large number of varieties planted, the best are the Concord, Hartford Prolific and Clinton.

Large Peach Farms.

Near Middletown several large peach farms were visited. The farm of the late Cantwell Clark contains one thousand acres, two hundred and eighty of which are

devoted to peach orchards, and the balance to corn, wheat and grass, all managed entirely by a young lady only twenty-one years of age.

The farm of J. T. Ellison contains a peach orchard of one hundred acres, trees varying from two to eighteen years of age. Mr. B. T. Biggs, U. S. representative to Congress, has orchards containing thirty-five thousand trees. These are divided over four farms. Most of them are rented to tenants who keep the farms in excellent order. While the present low prices of peaches were discouraging most growers, Mr. Biggs still felt hopeful, for in his opinion, a profit of but fifteen cents per basket would net the grower as much money per acre as hay or grain farming.

The farm of J. B. Fennimore, which for years has been one of the largest and most successful and most profitable in the State, was this year only bringing him a profit of but fifteen cents per basket for his fruit, and most of it was his choicest.

The orchards near Middletown are in fine condition, the land being heavier and trees more productive than at points further south, but not as finely colored, nor as early as at Dover. The peaches are picked from the tree by laborers from Philadelphia and Baltimore. Their wages are \$1 to \$1.25 per day, and board. Good pickers will average from forty to fifty baskets per day. Some prefer to pick by the basket, and receive five cents per basket, and make \$2 per day, others \$3.

The farm of Samuel Townsend, near Smyrna, contains four hundred acres, and he ships usually three cars of fruit per day.

Near Smyrna are the farms of four brothers, George Cummings and three others, who have been most successful in the management of their fruit, and have accumulated large fortunes.

On the farm of Robert Cummings is a fine apple orchard, the leading variety of all, "English Red Streak," having an unusual quantity of fruit upon it. This apple is one of the most popular in the State. Mr. Peters thinks the very early varieties profitable, such as the Golden Sweet, Early Harvest, and Red Astrachan. These four brothers have together one thousand acres, and one hundred thousand peach trees. As an instance of the fluctuation of prices, one of the brothers (as stated by Mr. Quinn) shipped fourteen hundred baskets one day to market, and when the account of sale was returned to him, found only a net profit of three cents per basket. Owing to the low prices, thousands of bushels were not picked and left to rot on the trees in nearly every orchard on the Peninsula. One grower near Mount Pleasant lost ten thousand baskets of peaches in this way.

At Round Top, Md., is the farm of Jno. Harris, who has one of the largest peach orchards in the United States—one thousand and thirteen acres, nearly all in full bearing. All the crop is *canned* on the place. The canning factory is located in the center of the orchard, and fruit brought right to it from the pickers. Five hundred women and girls are employed during the busy season, assorting and peeling and packing. They earn \$6 to \$10 per week. They get fifteen cents per basket for peeling and quartering the peaches and removing the pits. The daily work is about four thousand baskets, which make thirty thousand cans, and before the close of the season, Mr. Harris expects his crop will fill one million cans. The canned peaches are sold in Baltimore and Philadelphia, bringing at wholesale, \$1.25 per dozen cans.

of two pounds each, which is very low, the usual price being \$2.75 per dozen. Cans holding three pounds sell for \$1 more per dozen.

Osage Hedges.

Nearly all the farms are surrounded with Osage hedges, and the roads for many miles are bordered on either side with some specimen hedges of enormous size—all of them beautiful in extreme, especially in midsummer, when the *Scarlet Trumpet Creeper* opens its gorgeously crimson-colored flowers and runs over the hedge in its wildest profusion. At Massey's Cross Roads, Md., on the farm of D. J. Blakiston is an Osage hedge of five miles; the annual cost of trimming and keeping in order being but \$26. This gentleman has a pear orchard of eight hundred trees, planted seven years, the fruit from which last year sold for \$750 net; but it was suffering badly from the frozen sap blight and fire blight. Other orchards in the neighborhood were suffering so much from the same cause as to discourage all further planting.

The Biggest Peach Orchard in the United States

Is that of Col. Edward Wilkins, who now has THIRTEEN HUNDRED AND FIFTY acres, with ONE HUNDRED AND THIRTY-SIX THOUSAND TREES. The peaches from his orchard, which is located near Chestertown, Md., are packed in crates and sent to Baltimore by the Col.'s own steamboat, to one canning factory who contracts for the whole crop. In 1869 they netted him \$1.10 per crate; this year only thirty-five cents, or 17½ cents per basket. Yet at this price he esteems it more profitable to grow peaches than to grow corn at the rate of sixty cents per bushel for a crop of sixty bushels per acre. Some of his trees, three years old, yielded him two crates to the tree. This is unusual, for a basket per tree is a fair average. Each crate holds two baskets.

A Profitable Peach Orchard.

A well known peach grower near Chestertown, favored the party with figures of his gross receipts from a peach orchard of three hundred and twenty-five acres, during a term of nine years. Trees in this orchard in 1862, were then but four years planted.

1862, gross receipts.....	\$12,600 00
1863, "	32,340 00
1864, "	32,339 00
1865, "	48,042 98
1866, "	16,804 00
1867, "	9,980 00
1868, "	1,850 00
1869, "	30,429 00
1870, "	22,000 00
In these nine years, value of brandy made.....	15,150 00
 Total	 \$231,043 98

More than half of this went for expense of marketing and gathering, the rest was profit.

The trees in Delaware orchards are usually planted 20 by 20, giving 108 trees to

the acre. The third year from planting they begin to bear, and continue fifteen or twenty, if well cultivated. Once a year they are wormed and branches are thinned out after each crop. Shortening or pruning the tops is practiced only among a few first class growers, who believe in it; and some are trying the plan of growing low heads, which is not fancied by the majority, yet it forms a self-protection.

Pear Orchards.

Mr. R. S. Emery, near Chester River, Md., has a pear orchard of six thousand trees. Four rows of Duchesse, six years old, are stated by Mr. Quinn, to be both in growth of tree, size, uniformity and quantity of fruit, far ahead of anything he had beheld in the State.

Dr. C. H. V. Massey, near Massey's Cross Roads, has also a pear orchard of several thousand trees, but the blight was playing sad havoc in almost every orchard, and pear growers felt dispirited.

List of Peaches Usually Planted.

Peach growers now usually choose a list like the following, named in the order in which they ripen: Troth's Early, Large Early York, Crawford's Early, Crawford's Late, Reeves' Favorite, Ward's Late Free, Oldmixon Free, and Beers' Smock. The finest of all the peaches are the Crawfords and Oldmixon, the last perhaps the choicest in flavor. The Susquehanna is the largest grown, but not productive, single peaches often measuring nine to ten inches in circumference.

The Hale's Early is now very unpopular among the growers, on account of its tendency to rot on the trees before ripening, and is too tender for shipping. Mr. Quinn, to whom we are indebted for notes of this excursion, states that fully *one million* more trees will be in bearing next year over those of this year, and low prices may be expected to continue for several years to come, and the lot of the peach growers both very hard and unprofitable. The net prices of peaches this year range only from ten to twenty-five cents per basket. All the excursionists unite in expressions of delight at the beauty of the country visited. The farms are large, and as the land is level, or slightly rolling and uneven, orchards reach on every side, and the country has one uniform handsome appearance.

The system of hedges of the Peninsula naturally adds to the beauty of the farm, and excites the admiration of the visitor. During the ride of one hundred and forty miles in their carriages, the excursionists saw more than thirty miles of Osage hedges, either facing the road or dividing lines for one farm from another, forming at four years old not only fences of great size, but of utility, for they are completely impenetrable by cattle or pigs.

Fruit culture in Delaware is on a more colossal scale than our Northern readers have any possible idea of, yet it will be seen that like fruit grown everywhere, there are discouragements at almost every step. Still, like all occupations, after good lively competition, fruit growing becomes at last a settled occupation, and after "fevers" are over, there is a permanency to the trade, and a healthy increase in demand year after year.



Editorial Notes.

Fall Campaign. Reduction of Terms. Keep Pushing Things.

Our offer of three months for thirty cents, as a trial trip, we again renew for the last three months of this year. Send in the names by the thousand.

After December 1st, our Subscription terms per year will be reduced to \$2, if paid strictly in advance before February 1st, next.

Our Club Terms are also reduced, and are now so favorable that anyone can get up a club easily, anywhere. See new Club List, in advertising pages.

Watering Newly Set Trees.

Care should be taken not to water too much. A fruit grower once to our knowledge, when planting a row of trees, used water too freely—by the buckets full. During the night the temperature changed, the thermometer fell to below freezing point, and the wet ground was entirely frozen, injuring the trees and roots as much as if they had been severely scalded. Trees should never be water-soaked, and until the leaves begin to form, they never need much water. The *Country Gentleman* in discussing this point, says judiciously:

"When covered with foliage, a tree pumps water out of the soil and dissipates it in the air at least twenty times faster than bare branches. Some young trees, and especially pear trees, often remain fresh and alive for several weeks, without opening leaves; and in such a case, or when the stem is slightly shriveled, nothing is better than to tie a little long straw around it, and wet this straw daily. The moisture is absorbed precisely where it is wanted, at the bark; and young trees that appeared hopeless in condition have thus been restored to vigorous growth in a few weeks. As a general rule, never water the roots of young trees, but depend upon maintaining the moisture of soil by a clean mellow surface; and if necessary at midsummer by mulching. Watering gives at best an intermitting supply, hardens or crusts the surface, and commonly does more harm than good."

Grafting Soft-wooded Bedding Plants.

Quite a number of desirable curiosities were shown us lately in the form of grafted Coleus. On one upright plant of the —— Coleus there were grafted three other varieties: the Setting Sun, Her Majesty, and Verschaffeltii, forming a curious yet splendid constellation of colors and variegated leaves. One other plant was mentioned to us as having eighteen grafts of all possible varieties on one stalk; but we did not see it—the other we did see. The Achyranthus Gilsoni has been grafted in the way upon the Lindeni, and formed another queer compound of colors; odd, yet pretty. Various geraniums have been so grafted, and the combination of colors was admirable. This system of grafting flowering stems of fancy colors from one gera-

nium on to another, or of any Coleus, Achyranthus, etc., will not fail to be popular, and lead to many striking displays.

What could be more odd, yet beautiful, to see on the exhibition stand a geranium with flowers, here and there, of the Gen. Grant, Warrior, Madame Lemoine and half a dozen others for contrast, and then leaves of the Mountain of Snow, or Mrs. Pollock intermingled here and there?

It can be done; we have seen it successfully, and the credit is due to Graves, Selover, Willard & Co., Geneva, N. Y., for the first display in our knowledge of plants thus treated, which was done at the fair of Saratoga Springs, Sept. 7, last.

Fall Setting of Small Fruits.

The only small fruits we can recommend for fall planting are blackberries and black cap raspberries.

Plow double furrows six feet apart, drop the roots or tips every three or four feet apart, and apply to each hill a good shovelful of manure. No fruit can be expected the next year worthy to be called a crop; even the second year it will be but one-half or two-thirds of a full crop. In the third year the bed will be in prime order for heavy successive crops. If the soil is in a cold climate, it would be well to mulch the plant each winter, and in summer, if dry, do the same when fruit is ripening.

Results of Strawberry Culture by Rows or Hills.

There are advocates of success of strawberry culture under three systems:

1. To get but one or two crops from the ground, allowing the vines to run broadcast, and then plow the bed under, starting a new bed each year. It is claimed that it is cheaper to do this, than expend too much labor in keeping to the hill or row system.

2. The row system, by which the plants are permitted to run in the row, while the ground between is kept constantly cultivated by horse power and kept free from weeds; the rows grow a little larger each year, and the third year the old rows are plowed in, and new rows are set out in the vacant soil between the old rows, hitherto kept cultivated.

3. Entirely in hills: this is garden culture properly, and requires the very best attention—manuring, mulching, and careful preparation of the ground. It is more costly, but pays better; still a cultivator can not care for as much ground as on either of the other two systems.

No association of fruit growers have agreed on any practice as definitely the best, although the majority of best cultivators uniformly advise the hill system. It is the one we practice, and which is the best conducive to the long life, health and productiveness of the strawberry beds. It is *more easy* to try the other two, yet when once a cultivator has spent \$200 or \$300 in preparation of his bed, he wishes to feel it is permanent for some length of time, and few care to repeat the same process every year or two on the same ground. It makes strawberry growing almost too costly in the end. We think strawberry beds should be made as permanent as possible, and give as little charge or occasion for expense in renewal as possible; still the habits of growth require some renewal every few years.

We observe a strawberry grower, in the *Small Fruit Recorder*, has reported the results of experiments in the hill system and matted row system: 1,500 plants of the Wilson's Albany were kept in hills, the runners pulled off every time they appeared; the other 1,500 were cultivated on the "matted row" system, thoroughly hoed and cultivated. In the middle of November, both beds were mulched; half of them were mulched with straw, one-quarter with coarse stable manure, and one-quarter were not mulched at all. The results are as follows: Those kept in hills and mulched with straw, were decidedly the largest and finest berries; those kept in rows and mulched with straw were also very fine; those in beds and mulched with

manure, did not yield more than half as many berries, and of an inferior quality, as those mulched with straw; and those that were not mulched at all, were hardly worth picking.

Although those kept in hills yielded the best berries, which might be called extra, yet as the difference of price was not enough extra, it was found that more money was realized from the *rows mulched with straw*, while those kept in hills cost enough less for labor and cultivation to more than counterbalance the difference; so that the verdict of *profit* proved to be in favor of the *hill system* as yielding better fruit at less cost.

Those kept in hills did not begin to ripen until two or three days after the other, and lasted continuously for a long time, while those grown in *rows* and mulched the same, were all dried up.

Catnicosa Raspberry.

The best cultivators are now unanimously recommending to cut all plants of this variety in the spring down to about two feet, and apply plenty of manure. Thus treated, they will continue productive for any number of years—a splendid family variety.

Grimes Golden.

An Ohio cultivator has about one hundred varieties of apples, all the best kind, yet Grimes Golden is at the head of the list for hardiness, fairness of fruit, uniform bearing and superior quality. The orchard has been twenty-one years planted, and for sixteen years the Grimes has not failed to give an annual crop of good size fruit.

Soil for the Flemish Beauty.

The *Western Pomologist* says that for the West it is peculiarly fitted to a lightish soil, for the finest fruit grown in Iowa and Kansas has been grown on a light sandy loam.

Clapp's Favorite.

Our opinion of this pear is two-sided. As a tree it is superb—cannot possibly ask for anything more vigorous or perfect in form. As a market fruit we dislike it. It ripens and rots too quickly. The ordinary cultivator, who waits for the fruit to ripen on the tree, will find it begins to rot before it is a day plucked, and, if gathered before ripe, it will rot almost as soon as it is fit to eat.

Doolittle Best Yet.

The *Western Pomologist* says the Doolittle is still ahead in the West, the best variety yet for general cultivation; the Mammoth Cluster and Miami in comparison with it being still in the back ground.

Purple Cane is the highest flavored berry, but too small and tender for market.

California Fruit for the East.

The amount of California fruit shipped East last year to Utah, Colorado, Chicago, etc., was 2,000 tons.

The Biggest Fruit Trees in the United States.

The inhabitants of San Buenaventure, California, claim to have the largest pear, palm, English walnut and olive trees in the United States.

In the old Mission orchard are three date palms seven to nine feet in circumference, and from forty to fifty feet high. Pear trees eight feet in circumference, and olives seven. Three English walnuts, the largest six feet in circumference, about thirty feet in height, and a spread of top of sixty feet.

The Big Grape was measured by Dr. Logan, who states in the *Rural Press*, he found it to be four feet three inches in circumference, four and a half feet from the ground at the point of beginning of the first branch. This vine, still healthy and

vigorous, was planted from a cutting some forty odd years ago, and its branches now spread over a trellis seventy-six feet long and sixty-one feet wide, which they completely cover. It produces from 12,000 to 15,000 pounds of fruit annually, some of the clusters weighing five pounds.

An Enterprising Nursery Firm.

The White Springs farm, formerly belonging to James O. Sheldon, and located near Geneva, has been purchased by the nursery firm of Nicholas & Newson. It contains 300 acres of the most fertile land, suitable for nursery purposes, and is worth not far from \$90,000.

This enterprising firm are still young in the business, having commenced but five years ago. They already have 150 acres of nursery land, and in past years have been quite successful in their sales. Some idea of their trade is gained when it is mentioned that this summer they have budded 300,000 apple and 200,000 pear trees, with other stocks in same proportion.

Too Early.

"Now and then," writes the *Rural New Yorker*, that "it is becoming pretty well known that certain fruits can be sent to market sooner than wanted at profitable prices to growers. The area devoted to fruit is now so large that fruit from one section often arrives before it is wanted, and varieties are so interwoven and mixed up, that we have too many at one time in our markets to make any of them profitable."

Cutting off Strawberry Leaves.

Still another champion appears in behalf of removing the old leaves of strawberry vines. A subscriber lately asked the *Rural New Yorker* if it was safe to cut off these leaves, and in general soliciting the opinion of the readers as to defoliating strawberry plants. To which another subscriber, M. O. Bowen replies:

I keep from one-eighth to one-fourth of an acre in strawberries. My patch is universally admired by every one that sees it. I have heard but one expression in regard to it and that is they never saw better and they never saw as good. In the first place it is all important that we have the right kind of soil in order to grow a good crop. Mine is a clay loam, and I think for vigorous plants, productiveness and flavor of fruit this is the best.

I set my plants twenty-four by thirty-four inches apart and keep them in hills. After the fruit is all gathered I take a sharp sickle and cut off all the runners and the old foliage and stems, being careful not to disturb the crown or new leaves that have started. Then I go through them with a hoe, clean out all the weeds, at the same time pulling out all weeds and grass that may be in the hills. I leave all the foliage on the ground.

My advice to Mr. Calkins is never to spade or fork the ground among strawberries, for in doing so he will disturb the roots and shorten the life of the plants. It matters not how compact the ground, if they are kept clear of weeds and grass. The above treatment has enabled me to pick this season from less than one-quarter of an acre forty bushels of berries, notwithstanding the frost killed very many of the first blossoms. Varieties raised are Wilson's Albany and Jucunda.

Raisins from California Grapes.

F. G. Jeffers, of Visalia, California, has experimented with raisin making from the foreign grapes of California.

"I gathered and spread on scaffolds in the sun, about the middle of September ; after they are partly dry, I put loosely in large boxes under cover to finish drying ; in about six weeks they were dry enough to box.

The *Rose of Peru* averaged this year about forty pounds to the vine ; it took three pounds of green grapes to make one of dry. The *Fi her Zagos* averaged twenty-five

pounds to the vine, and it also took three pounds of green to make one of dry. The Muscat, of Alexandria, averaged ten pounds to the vine, and took only two pounds to make one of dry.

The Martha Grape.

Boxes of this new white grape have been received in New York, and sold in our Broadway fruit stores. Mr. Knox's label appears on most of the finer boxes, usually of the three-pound size. The color of the grape is fine, as white as the Rebecca, berries about the same size, and make a fine appearance, but flavor is very sweet and musky, more so than the Concord or Hartford Prolific. The Martha is a fair producer, but we look for something still better in quality.

The Mount Vernon Pear.

This is one of the most vigorous growing varieties we have ever seen. Grafts inserted last spring, have made an extraordinary growth. We have great hopes that it will prove what we have long wanted, our best winter pear. Will any one favor us with opinions of quality, color, ripening and productiveness?

Pears for Delaware and the South.

The Tribune coincides with our previously expressed opinion, that it is not advisable to plant those varieties of pears which ripen with peaches. *Late varieties* will be far more profitable. The Beurre D'Anjou and Lawrence are recommended in preference to the Bartlett, also the Beurre Bosc, which is not as much grown as its merits deserve. "In growth and bearing it is quite similar to the Beurre D'Anjou. The tree requires age before producing much fruit, but when it does begin it will grow better each year." We need more good late varieties.

Pruning or Not.

There are examples in abundance to support the efficiency of systematic pruning, and again there are frequent instances to support those disciples of nature who believe a tree is better if left to itself, and not pruned at all, except to remove injured or diseased branches. Such differences of experience render it impossible to lay down any fixed law in horticulture as to pruning. We have an example in point: Dr. J. Stayman, of Kansas, has an orchard conducted on the *natural system*, which is left by nature to its own tendencies, and untouched by the pruning knife. He says, "after more than forty years of careful observation in pruning for various purposes, suggested by different authors, the last ten being devoted to a practical test and comparison of the relative value of pruning, I have become fully convinced that pruning is in no instance of any benefit, but in most cases an absolute and irreparable injury. Instead of pruning for form, vigor, health and transplanting, they shall only be pruned as a remedial agent in disease, in overcoming injuries and removing unnatural obstructions and deformities."

The Doctor does not believe that a tree should be pruned either in the nursery or orchard, or at the time of setting out and transplanting, nor at any subsequent time.

The Doctor takes a radical position opposed to all the usual practices of horticulture, and, like the "*grass theory of cultivation*," is a pill not to be heartily swallowed by the rest of the fraternity.

The Doctor's orchard is grown in grass, and is not pruned; the trees grow in all possible direction, unshaped and uncontrolled, and yet are loaded with fruit year after year—the orchard is a great success.

Yet we advise no one heartily to do as he does. His soil is favorable for fruit culture; the climate is a great aid. Trees that are pruned are doing just as well as his.

In another soil and another climate, not as favorable for fruit as his (Kansas), we feel confident his system would be productive of total failure. In Delaware we have seen orchards unpruned that never were successful. We have in mind now a row of

pear trees which have never been touched since they were put out, ten years ago, yet have never borne a particle of fruit, while other trees of the same variety (Bartlett) pruned judiciously, have yielded regularly.

The finest pear orchard near New York, which yielded \$10,000 last year, is a monument in honor of judicious pruning. Mr. William Saunders, of Washington, who formerly believed as Dr. Stayman did, that fruit trees should go unpruned, has now, we believe, changed his opinion and practice, and considers pruning, more or little as the case may need, one of the necessities of fruit culture.

Remember we have no sympathy for indiscriminate pruners, who cut at random, or by the wholesale, in every part of the tree. A good pruner will take as much care and time in selecting the right branch, and how much of it to trim off, as a cook would do in fashioning the outside proportions of a handsome cake.

In some portions of the West, where growth is too rank, the grass theory can for a time be brought into requisition with good results. We do not say but that it may occasionally be useful, and so in some soils which have just the right food for the tree, so it will grow without much urging, and produce good crops naturally, the orchard may very properly go *without* pruning for a long series of years. On a limestone soil nearly all kinds of fruit will do well even if neglected.

But for the largest expanse of territory, and among the largest class of cultivators there are only *two orthodox* systems:

1st. Prune your trees regularly in summer to develop the fruit spurs, and in winter for wood.

2nd. Cultivate your orchard, but allow no other crops therein, and mulch occasionally. Other practices than these, or other advice, must have an unwholesome effect.

Downing's Selected Fruits of America.

This is a condensation from the larger work of Mr. Downing's, which is of too large a size and high price for most persons of moderate means.

The new volume has about half the number of pages of the other, and contains descriptions of 200 varieties of our most popular kinds of apples, and other fruits in same proportion. To the general cultivator it is as good for reference as the other. The price is \$2.50. We are glad to see that the price of the large volume has been reduced from \$8 to \$5. At this price it is the cheapest book published.

Herstine and Saunders Raspberries.

The reports of the committees of last year and this year are before the public; but committees are expected generally beforehand, owing to the courtesies they receive, to give a good word for their patrons. The best way to judge a fruit is to go alone, and be under no obligations. If our opinion is desired, we would frankly admit, from the little we have seen, that the Herstine *is* a good variety, and equal to what has been *modestly* (not extravagantly) claimed for it—a good productive, large, red raspberry, growing well on light or heavy soils. The Saunders *is not*, in our opinion, equal to the necessary test for market purposes; is somewhat of the same character as the Brinckles Orange; choice, but not over vigorous or productive—a good amateur variety.

Fall Planting of Fruit Trees.

A point now well settled is, we think, an admirable one for both cultivators and the trade, *i. e.*, the fall is the best time for tree planting. If for no other consideration than that of *plenty of time for careful handling*, we would esteem it a point well worth gaining. The spring often opens in a hurry, the nurseryman is often caught, and cannot hurry trees off fast enough; and some one is always behindhand with his order till the last moment, and then growls because his trees are started and putting forth leaves before he gets his order filled. Order early in the fall and plant when you have an abundance of time.

Horticultural Notes.*The Profits of Peaches.*

To show what peaches have paid in past years, we quote the following figures from the note book of Mr. E. C. Fennimore, of Delaware. Mr. Fennimore has been one of the oldest and most successful growers of the State, and for many years he was unusually successful with his trees and crops when others failed; but this year, with many others, he has seen the time when they were grown and shipped in too large quantities, and actually sold at a loss. He sold—

In 1861.....	191 baskets bringing.....	\$206 24
" 1862.....	1,893 "	868 35
" 1863.....	18,423 "	15,051 81
" 1864.....	25,964 "	18,434 89
" 1865.....	22,124 "	23,070 25
" 1866.....	13,675 "	20,266 07
" 1867.....	27,500 "	18,551 40
" 1868.....	4,250 "	15,281 68
" 1869.....	34,000 "	14,464 27
" 1870.....	16,029 "	15,607 76
<hr/>		
164,050 baskets.		\$150,811 80

Should we let Suckers Remain or Not on Fruit Trees.

We have always held the opposite opinion, and, with knife in hand, have whipped them off from every tree we could possibly reach; but recently a Delaware pear-grower called attention to a fact in his experience which gave a new idea. He says he permits all his suckers to remain down to the end of the growing season, *because they make the trunk more stocky*, and hence with young trees, less likely to be bent or blown about with the wind. It is a question to be discussed whether the loss of nourishment to the upper branches of the tree, by the maintenance of the miserable little sucker below is counterbalanced by the extra stockiness of the trunk. We think not. The tree needs all the opportunity for life and nourishment it can get. Suckers are like parasites, useless subsistants on the food that belongs to other branches. We think the only common sense mode is to permit the tree to carry no more branches than it can mature well, and remove all superfluous shoots. The best way to avoid all trouble with suckers is to cut them off as soon as they first appear. If delayed, the task of their removal will be greatly increased, and the risk of injury to the tree become greater.

A cultivator states, in the *Country Gentleman*, the worst thing that can be done is cutting the suckers off with a knife in such a way that short stubs are left to sprout a second time. If the sprouts are small or only one season's growth, they can be easily and well removed by grasping them one at a time with both hands, and then, with a stiff cowhide boot, place the foot next the tree and on the sucker, and one or two quick-jerks will separate it to the base. If this is impracticable, take a small gouge and mallet and cut them off closely. When it is thoroughly done, they will not be likely to reappear, and the few that appear subsequently are easily got rid of. A neatly kept, clean orchard is better and more profitable in every way than one infested with suckers, weeds, grass and bushes."

Canning Fruit.

If it were not for the fortuitous opening of cannning factories, to relieve our farms and markets of surplus fruit, we fear fruit culture would be a very unsatisfactory occupation. One of the largest factories of the Delaware Peninsula is located at Lebanon, Delaware, the property of Collins, Geddes & Co. The building is 175 feet long and 50 feet wide. The establishment contains six bath tubs for preoessing the

fruit, fourteen copper kettles for cooking tomatoes and making syrup, seats for 300 hands, there being 400 in all employed. During the present season the firm will put up over half a million cans of peaches, tomatoes, pears, strawberries and raspberries.

It requires 30,000 boxes to pack the fruit of a single season, and 200 barrels of sugar. Two thousand dollars are annually expended for labels, and a thousand dollars per week paid for labor during the canning season.

The cannery factory of Richardson & Robbins at Dover, Delaware, is one of the very first ever erected, and bears at present the reputation of producing the very choicest quality of fruits, etc. During the fruit season forty to sixty hands are constantly employed, and the greatest care exercised in the selection and preparation of fruit for the cans. Specimens of their peaches, pears and potted meats we took with us on the Western editorial trip, which were of unexcelled quality. It is quite common now to find factories in every county in all our large peach growing districts of the United States; and soon we may expect to see one to every town. Nothing contributes so materially to the steadiness of the fruit markets as the presence of canning factories. Where they exist the grower may feel sure of either fair prices in market, or fair prices at home.

Mulching Again.

An Indiana cultivator says: "After an observation of ten years past, I am confirmed in the belief that it is poor economy to try to raise strawberries without mulching. A good mulch is a policy of insurance against dry weather, while in all seasons, wet or dry, it keeps the fruit clean, as well as prevents the growth of weeds. On the Weinberger farm, near Indianapolis, I noticed the strawberries producing a good paying crop, notwithstanding it was claimed that the frost had materially lessened the result. The entire crop was heavily mulched, with perhaps the exception of a small patch, here and there, that was allowed to run in matted rows. The latter yielded comparatively no fruit, while the former in single hills and well mulched, would pay (I should judge) good dividends. In very favorable situations and seasons, I have raised good crops without mulch; but such culture is unreliable, and in the long run unprofitable."

Turn to the article we give in some of our previous pages, where we give the success of a grape-grower who persisted in mulching his vineyard with straw. Has any one failed who applied mulching? Let us hear from him.

Davidson's Thornless.

Quite a number of growers are complaining this season of the smallness of the berry of the Davidson's thornless raspberry. Perhaps soils and seasons do change its size, but on lands with clayey texture, well drained, it excelled in size and productiveness anything we have ever known.

Double Balsams.

I had such splendid success with my balsams this year that I must record my experience for the benefit of others. I started seeds in a cigar box placed in a south window; when the seedlings had formed the second leaves, transplanted into thumb pots, kept them there till May, when the weather had become settled and the ground warm, then they were planted out. As the plants grew up, I broke off all the side branches, allowing only the main stalk to grow. June tenth they began to bloom, and grew rapidly until three feet high, when the stalks were perfect masses of flowers, so thickly set that nothing could be seen but leaves and flowers. Such a blaze of scarlet blotched with white, and crimson and purple, and white tinged with a faint bluish, and other different shades! Many were double, and fit rivals for the queenly roses. It is a pity they have such short stems. The best way to display them is on a plate or saucer, on a green bed of French Marigold, or some other plant with deli-

cate, spray-like foliage. Pruning the plants in the above manner causes them to bloom earlier, and in much greater abundance. A few should be set out every two or three weeks for succession, as when they began to ripen seeds, the plants lose much of their beauty, and should be cut off and thrown away.

To occupy the space thus left vacant in the flower border, plant, at the time of setting the balsams, a few seeds of *Abronia umbellata*, a handsome trailing plant, with trusses of very sweet scented flowers, of rosy lilac color, resembling the *Vernena* in shape, but not so large. This will run over and occupy the ground and be ready to bloom about the time the old balsam stalks are cut away. It is best to start the seeds of *Abronia* in a warm window or a hot-bed, if one has that convenience in the spring. The seeds must be separated from the hard husks in which they grow, else they will rot.—*Iowa Homestead*.

Laurel-Leaved Willow.

It is a matter of some surprise that this very beautiful willow is not more generally grown. It is perfectly hardy, easily propagated, even from cuttings, and seldom dies from removal if properly transplanted. The laurel-leaved willow bears the pruning-knife or shears well, and can be kept as a low dwarf bush in garden borders, or grown as a medium sized tree on the lawn. It is, when grown as a bush, from four to eight feet high, that the dark-green, polished leaves, flashing in the bright sunlight, reveal its incomparable beauty. No laurel leaf is darker or more glossy, and its slender branches permit its being swayed by the wind, and revealing its beauty. When grown as a tree, and bearing seed, its leaves are not so dark, or so highly polished, yet there are few, if any trees with so handsome heads, and trim, inviting appearance for the lawn.—*American Rural Home*.

Arbor Vitæ Screens.

Dr. Hull writes thus in the *Prairie Farmer*: The finest effect we recollect ever to have seen, in growing a hedge of the arbor vitæ, was one in which the plants were set two feet apart, and, after they had grown one year, the ground was then heavily mulched—say three inches deep—with old horse manure and saw-dust, in about equal parts, and small trenches were opened on each side, about twelve inches out, and all of the branches which were trailing on the ground, were bent and buried in the earth, with the ends turned up. Each branch so buried became rooted, forming, as it were, a separate tree. On such trees as had lost their trailing branches, those nearest the ground were bent down into the trenches, and held in place by wooden pins or forked sticks. A mulch like that under the trees was then spread one foot wide outside the rows of those buried branches, which kept the ground moist, and caused all to emit roots and become, as it were, separate trees. It would hardly be possible, by any amount of trimming, to make trees so thick or impervious as by this method, nor do we recollect to have seen so fine a pyramidal screen secured by any other means.

Crown Imperials.

These plants are well deserving of being extensively cultivated, for, being among the earliest tall flowers of spring, they make a fine appearance at a season when such flowers are much wanted to decorate the flower garden. Dwarf flowering plants we have in abundance at that season, but tall flowering plants are not so plentiful.

Besides, the beauty of the plants, and the splendor of the magnificent pendulous flowers, should ever secure them a place in the flower garden. The stalk rises to the height of four feet or upwards, and is garnished two-thirds of the length on every side with long, narrow leaves, ending in points which are smooth and entire. The upper part of the stalk is naked for a foot of its length; then the flowers come out all round the stalk upon short footstalks which turn downward, and each sustain

one large flower. Above these rises a spreading tuft of green leaves, which are erect, the whole giving the plant a striking appearance.

They may be propagated by seeds or offsets from the root, the latter being the method generally adopted.

The roots may remain the year round in the soil, and need only be transplanted every three or four years. When planted in mixed borders they should not be planted too near to other flowers. They should be planted six inches deep at least, especially the stronger roots. They delight in a light soil, not too wet nor very full of dung. When planted in mixed borders they should always be kept properly labelled, otherwise the roots may be injured when the borders are being dug and cleaned.—*Floral World.*

The Grape Culturist.

After two years' publication, this has been suspended, and is now merged into *Colman's Rural World*. A *grape and wine department* has been opened in that journal, and George Husmann and Dr. Spalding are still to remain in active connection with it.

The Madiera Vine.

The *Boston Cultivator*, in a notice of this charming creeper, reminds the ladies that its roots must be taken up, and preserved through the winter away from frost. "It is a most elegant and beautiful climbing plant, a rapid grower, when planted in rich loam, growing, under favorable circumstances, forty feet in season, and is, therefore, an admirable and desirable plant for covering an arbor, or a screen, or the shading of windows, where climbers are wanted. They may also be cultivated in pots under windows, affording a beautiful shading. The foliage is dark and glossy, and its white flowers numerous and fragrant."

Strawberries.

A small fruit-grower says, that in order to keep two acres of strawberries in perfect bearing condition, it is necessary that one acre should be planted each year, and one acre ploughed up each year after the third planting.

A Pretty Tree Bower.

The editor of *The Gardener's Monthly* says: Recently we saw a very pretty thing formed out of a half-a-dozen *Japan Catalpa*—*Catalpa Kœmpferi*. These seem to grow only from fifteen to twenty feet high, and the branches form a dense mass overhead, appearing in leaf as if the whole surface had been sheared. When not too closely confined, the whole stem pushes out leafy branches. A half-dozen of these set out by themselves, and trained up to single stems, will make one uniform mass of foliage if left to itself; and gothic arches, or arches of any form, can be cut between each pair of trees. The leaves around each tree stem can be left two or three feet wide if desired—and the effect will be unique.

Tuberoses.

The Agriculturist mentions a new tuberose growing only eighteen inches high, and producing flowers double the usual size. If so, it is quite desirable.

The Best Market Pears.

If a farmer were to say to us that he was about to plant twenty-five pear trees for profit—that is, for market purposes—and that he desired a suggestion as to the varieties and number of each variety he should set out, we would have no hesitation in giving him the following list: Two Early Catharine, two Giffard, four summer Julianne, five Manning's Elizabeth, three Bartlett, five Seckel, and four Lawrence. These ripen in the order they are placed.

It appears that these varieties do well everywhere, and are, therefore, particularly adapted to general cultivation. They are very productive, the trees hardy and vig-

orous in their growth, and the fruit generally perfect. The Early Catharine and Seckel are not early bearers, but when they once commence, they seldom fail in giving an abundant crop.

In purchasing the trees, be careful to select good specimens; have them taken up with all the roots possible; transplant with every attention; stake firmly, placing the stakes at an angle, with the head to the northeast; keep the ground stirred two or three feet from the stem all around; and allow no cattle to disturb them.—*German-town Telegraph.*

List of Choice Gladiolus.

This list is recommended by *American Rural Home*:

Dr. Lindley.—Flowers large, of a light rose color; edges of the petals striped with carmine.

Duc de Malakoff.—Orange scarlet, striped with pale yellow.

Imperatrice Eugenie.—White, striped with violet red inside, and lilac outside; this is a superb variety.

James Veitch.—Bright vermillion, stained with violet.

Lord Byron.—Fiery scarlet, with pure white stain.

Meyerbeer.—Another superb variety; flowers brilliant red, stained with amaranth.

Mr. E. Brongniart.—Large and finely formed; rose striped with carmine; petals creamy white inside.

Shakespeare.—White, striped with rosy carmine; one of the finest varieties.

Cultivators will remember that as soon as the foliage turns yellow in the fall, the bulbs must be taken up, well dried in the sun, placed carefully in paper bags, and kept in a dry place until next spring.

Early Rose in England.

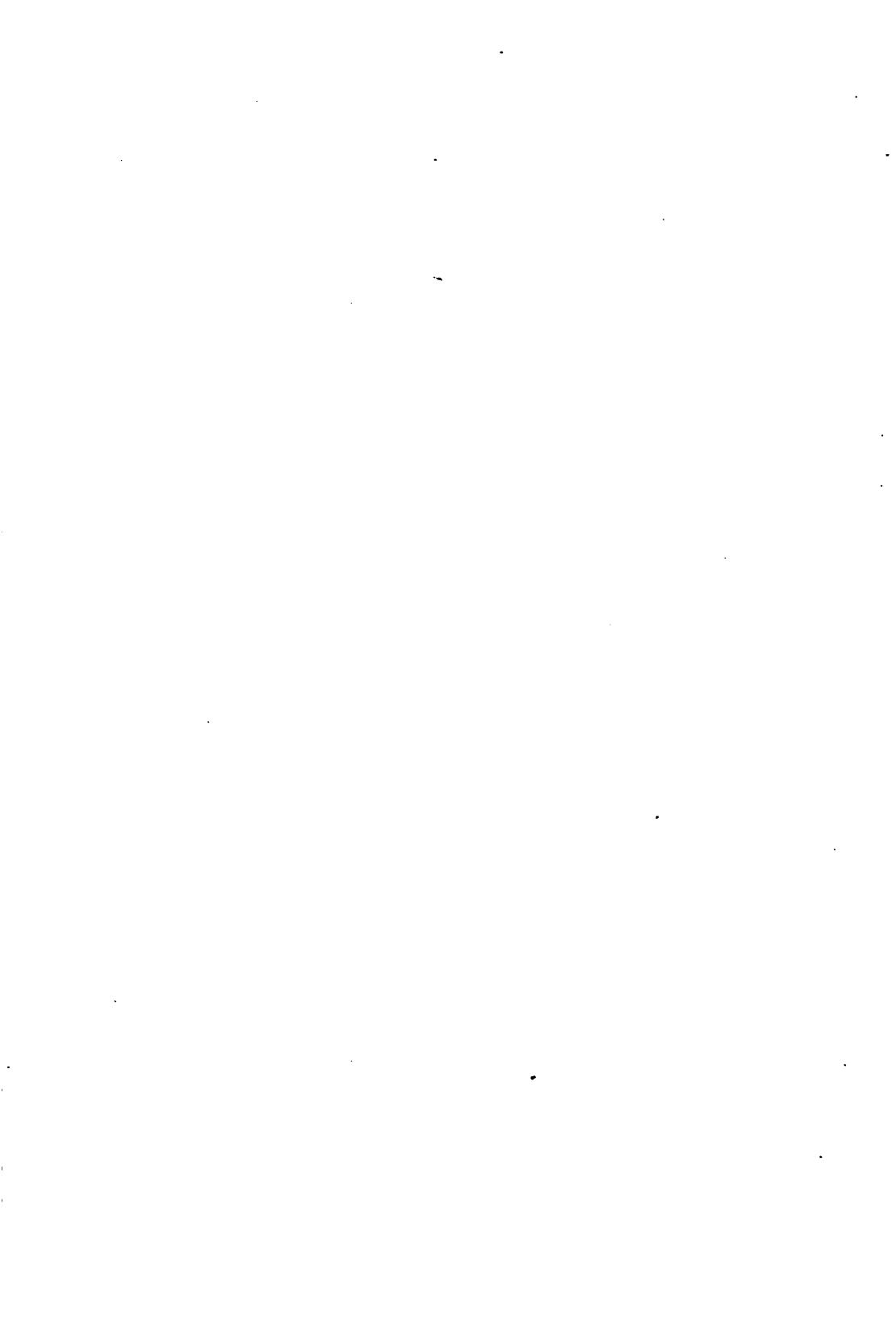
Thos. Rivers, the well-known English nurseryman, writes to the *London Journal of Horticulture* that he considers the Early Rose potato as raised in that country, "watery, nasty and uneatable." This was when dug for cooking in July; he tried it again in September, when "on being cooked with great care they were found to, be harsh and dry, with a hard center, and a flavor perfectly original, but so unpleasant—nasty, according to our cook—that I gave them up for that year. The mis-named Early Goodrich came in with the Regents, but instead of being like that sort in flavor, the tubers were earthy, with a peculiar *unearthly*, and most disagreeable flavor."

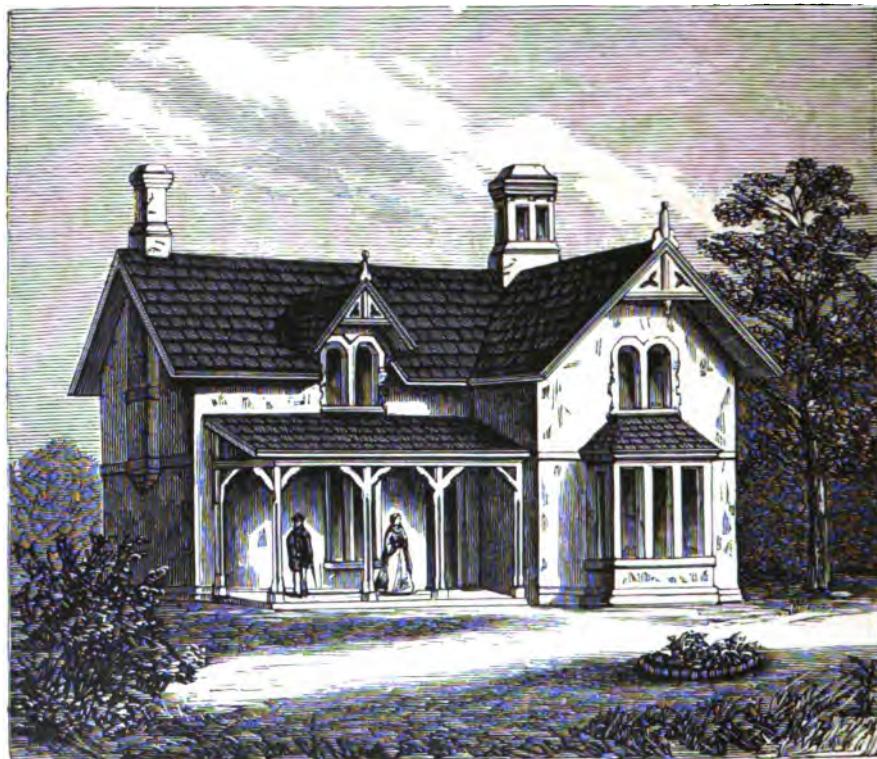


Editorial Notice.

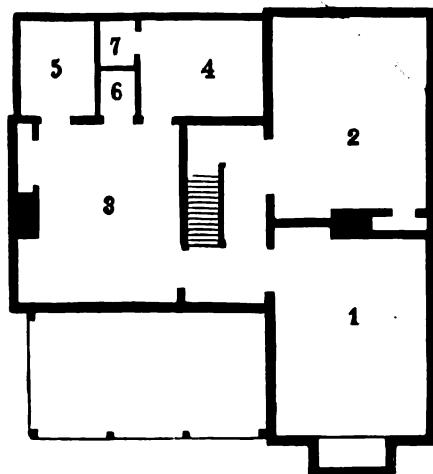
The Ladies' Floral Cabinet.

This new paper is devoted entirely to flowers for in-door ornament and out-door culture, as well as pictorial, home literature for the family circle. Its title head is an exquisite gem in wood engraving, and pronounced by artists the finest in the world. The entire number is illustrated profusely with engravings, and contains a large variety of popular matter, devoted to home interests. It is the first and only paper in America devoted specially to flower culture, and as it is supported by a more than customary share of business facilities and favorable patronage, the public may expect it will be a permanent and welcome addition to our list of rural and family periodicals. Issued monthly at the low price of seventy-five cents per year, from the office of *The Horticulturist*, 5 Beekman street. Speciman copies ten cents.

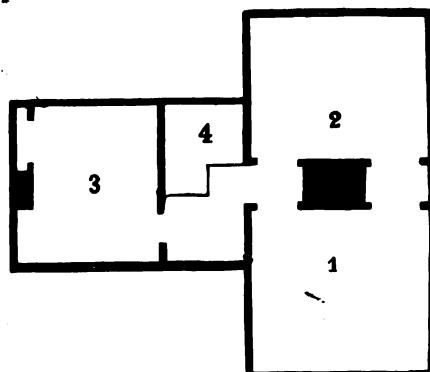




Design for a Farmer's Cottage.



First Floor.



Second Floor.

THE HORTICULTURIST

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Horticulture in the Far West.

EDITORIAL NOTES.

Forest Tree Planting on the Great Plains.

I OBSERVE an universal love of tree planting, both for shelter and ornament, as well as profit. In some localities it is a great hobby, and a very sensible one too. Beyond the central portions of Kansas and Nebraska, the country is so elevated, oftentimes so cold, and so utterly devoid of water or rain for irrigating purposes, that most agricultural writers have asserted, over and over again, it was useless to attempt any sort of tree culture, for they could not possibly live in so uncongenial a soil and climate. Mr. R. S. Elliott, Industrial Agent of the Kansas Pacific Railway, has for several years past been studying thoroughly the characteristics of meteorology, temperature, winds, and soil of this region, and at last became convinced that tree-culture was a possibility, and therefore commenced three experimental nursery beds in the most exposed localities, to prove that the plains did actually possess some encouraging signs of success in tree growth, and to remove beyond further question the prejudices of those writers who know so little of the subject. We were intensely interested in these experiments, and eagerly waited for the trains to arrive at the different points. The first plantation is at Wilson, a small station 239 miles west of Kansas City, and at an elevation of 1,686 feet above the level of the ocean, or over a quarter of a mile high. The second plantation is at Ellis, 302 miles west, and 2,119 feet high. The third is at Fort Wallace, 423 miles west, and 3,303 feet high, nearly in longitude 102° , and very near to the western boundary of the State of Kansas. Most of these experimental grounds were from five to ten acres in extent, although all the ground was not fully occupied.

The objects of Mr. Elliott were two-fold : First, to see if young trees taken from our ordinary commercial nurseries and transplanted here, would thrive either with or

without irrigation, and, second, to learn what varieties adapted themselves most readily to the situation, and made the most rapid and healthy growth. His facilities for the purpose were rather rude. His only force consisted of two laborers, who knew nothing of tree-planting; the boxes of trees were opened at three different stations, and the trees had to be transported from place to place, and subjected to considerable handling, exposure and delay before all were finally planted. At each place the ground was broken up last September, to the depth of six or eight inches, and again plowed over this spring, when the seeds of some trees were sown without special care, and the other young trees hastily planted. No artificial irrigation was resorted to, neither had there been much subsequent cultivation of the ground, from the beginning of spring down to the 1st of August. The ground was also not particularly advantageous for the purpose, being a high, rolling prairie, very dry soil, covered with the buffalo grass, and considerably exposed to the driving winds. Each plot was surrounded by a board fence five feet high, which, no doubt, had some ameliorating influence, for it was noticed that the trees nearest the fences, under the lee of the wind, made the best growth. The average age of the trees planted was two years. At the three stations, about eighteen varieties have been set out, namely:

Evergreens—White, Scotch, Australian and Corsican pine; Norway spruce, red cedar. Deciduous—Ailanthus, ash, box elder, catalpa, cottonwood, linden, silver leaved maple, sycamore-leaved maple, Osage orange, Lombardy poplar, elm, honey-locust, European larch, black walnut, tulip tree, white willow, golden willow. Fruits—Apple, cherry, peach, plum, Concord grapevines.

The above were all *transplanted*. At the same places, there were *sown*, in the fall of 1870, and spring of 1871, seeds of ailanthus, catalpa, chestnut, elm, black locust, honey locust, soft maple, oak, Osage orange, peach, pecan, pinon (New Mexican nut pine), and black walnut.

At the head of the list for rapidity of growth, from either seed or transplanted trees, is the *ailanthus*. In every place, its vigor and health and hardiness are super-eminent, and its growth would have done credit to any nursery of careful treatment. It is said this is the only tree at Denver which thrives without irrigation, the elevation being 5,200 feet. The general opinion is that it may safely be put down as one of the most successful and rapid-growing trees for any portion of the plains, and that it would prove exceedingly valuable either for screens, for timber, or belts, or as a help in ameliorating the climate and attracting rains. It needs so little attention, and usually does so well on dry and even sandy soil, that its success here is unquestionable. Next to this, the most interesting is the *larch*. A large number of these had been ordered and planted, but owing to the lateness of their arrival and careless handling, only few were alive. Most of them had also been planted too deep, yet those which lived made growth so satisfactory that Mr. Robert Douglas, the best evergreen authority on the subject in the West, says they fully equal, and in some cases excel, anything that he has seen in his own locality in Illinois, or any portion of the West. The principal difficulty is in starting them properly. After that there would be no question of their adaptability to the soil and climate. The testimony is also confirmed by Josiah Hoopes, Thomas Meehan, and D. L. Hall, who were present

with us. White ash has been largely planted, and at the time I saw them had made vigorous shoots a foot to eighteen inches in length, and seemed perfectly healthy in all respects, although suffering somewhat from the attacks of a large green worm, which had unexpectedly appeared. A black beetle (known also as the blister beetle) had eaten the foliage of some of the trees, and may become a disagreeable enemy. Catalpa is a rapid-growing tree, and its timber is very durable in the ground. Mr. Dunlap considers it one of the most promising trees, notwithstanding the apprehensions which are felt that its broad leaves will render it peculiarly susceptible to injury from the prairie winds. Box elder and Osage orange are perfectly healthy and vigorous. Willow—Also vigorous, but had been gnawed considerably by the prairie dogs. Other trees suffered in like manner, but the willow much the worst. Soft maple is injured a little by the winds. Cottonwood—A valuable tree, and a good grower. Chestnut—A failure; likewise European sycamore and linden. The evergreens seem to be more uniform in their success. The Scotch and white pines have made shoots of four to six inches in length; the Corsican pine and Lawson's cypress a perfect failure. The Austrian pine and Norway spruce are variable. At each station some one or two varieties took the lead in vigor and adaptability to the location. At Wilson, the lowest in elevation of the three points, the Austrian pines are most successful, while maples are thrifty, and Osage orange quite as vigorous. The larches, where they were not planted too deep, have also done very well. Corn, also, shows good ears. At Ellis, the proprietor of the hotel treated us to a fine dinner. All the vegetables had been raised there in his own garden without irrigation (for there is no opportunity to secure water), and he proposes to start a twenty acre farm, and grow corn and wheat; his bread was remarkable for its whiteness and sweetness. He has taken pains to keep a record of the rain storms this summer, and handed a little card to us with the dates of rain, from March 25 to July 27, by which it appeared that rain fell on an average of once every three or four days, or three times in the last week in March, seven times in April, four times in May, seven times in June, and four times in July. On the 1st of July there was hail, and all through the first week there were heavy dews. These facts are very important, as in previous years rain had never been known here, while now, with the cultivation of the soil and the advent of settlements, the rains were beginning to fall regularly, and in quantities sufficient to nourish growing crops.

Of the trees planted at Ellis, all have grown without irrigation, and received no water save from the showers of the sky. He has given away here and there along the road, 80 to 100 bushels of black walnuts, and says, as far as he has heard, every tree is living. The ailanthus tree he esteems the most valuable of all trees. Forty-seven trees of this variety had been put out, and all were alive and healthy, exhibiting young shoots a foot long.

The experiments in seeds were not quite as definite in results as from the transplanted trees, but gave great encouragement. This work was purposely done in any rude style, such as a farmer would ordinarily practice. The seeds were sown broadcast on the plowed ground, harrowed in slightly, and left to take care of themselves. Here, again, the ailanthus takes the lead, and out-grows all competitors. The young

plants stand more thickly together than they would if properly thinned for a permanent plantation, having grown in less than three months one to two inches in height, and having a rich, healthy color of foliage. The other seeds sown here and there had germinated in occasional spots, enough to show the possibility of growth, although many doubtless will not grow before next year. Almost all these trees would have done far better if they had been pruned back to one or two buds at time of planting. Likewise, if a coating of mulch, if nothing better than prairie hay, had been applied, the growth would have been double, but enough has been done to satisfy any sanguine man that tree culture upon the far Western prairies is no longer a doubt or conjecture, but has a reasonable prospect of success. The solution of these experiments is calculated to have an important bearing, not only on the agriculture of those sections, but also the climate, and may be looked upon as one of the most important discoveries of modern times. At Denver, the people have exhibited commendable energy in setting out shade trees. The cottonwood is the universal favorite, and wherever it has received but the slightest irrigation it has done finely, growing with a vigor very remarkable, throwing up its long shoots of luxuriant green leaves 3 to 6 feet in a single season. Some trees, only four years planted, are 20 feet high and 4 inches in diameter. At Greeley, attempts at planting larches and evergreens have proved failures, principally from inexperience in handling and want of proper irrigation. The streets have been but very little planted with shade trees, although some have begun the good work. The people are now, however, better prepared and better informed how to manage them, and will continue experiments until something definite is known. Maple has been the only street-tree planted, and although in some cases irrigated constantly, yet they look sickly and doubtful. Even the apple-trees in the nurseries are far more healthy. In Nebraska there is a much more favorable climate for tree-culture, and the people are indulging in it freely. For 300 or 400 miles west of the Missouri River there are regular rains throughout the growing season, and every kind of tree appears to do well. In one county alone, it is said, over 3,000,000 trees have been planted this year, and it is estimated that out of the 50,000 new settlers that have come into the State within a year, fully one-half will plant trees largely. Near Omaha, Mr. Joel T. Griffith has forty acres of forest, black-walnut, cotton-wood, etc., which he planted in 1854 and 1858, fourteen years ago. The trees of the former are now bearing wagon-loads of nuts, and the cotton-woods are as big around as one can clasp with his arms. He has also 20,000 small maples, and cuts all the slats and fence-posts from his forest that he needs for his farm. Mr. Miller, of the *Herald*, has in the same vicinity 120 acres planted in black-walnut, about seven by eight feet, and forty acres in cotton-wood, eight feet apart. He has also laid out a fine grazing pasture of 600 acres, which he will surround twenty feet deep with a cordon of trees as a windbreak, and here will introduce the blue grass, to give a permanent home grazing field for sheep and other stock. Mr. Douglass advises him to put larch between; also to put in some white ash. Mr. Miller estimates the cost of planting an hundred-acre tree-farm would be \$4 per acre for plowing, \$5 per acre for planting, and with cost of land about \$12 to \$15 per acre. In ten years they would be worth \$100 to \$500 per acre. At Grand Island, 153 miles west of Omaha,

a farmer, William Stolley, has cotton-wood trees, ten years planted, now forty to sixty feet high, and one foot in diameter. Walnuts, twelve years from seed, planted six by six, and eight by eight, are now four to six inches in diameter, and have borne nuts for three years. He has ten acres in all. Every tree is successful, save that the black locust needs to be sheltered by the walnut, or else it will be broken with the winds. He has a very curious group of trees called the Twelve Apostles, standing alone, fine, large trees of noble stature and girth, each with the name of an Apostle. A severe storm of thunder and lightning visited the locality one day, and after playing havoc in every direction demolished with a single stroke the one named Judas Iscariot, and to this day poor Judy is as remarkable a fall from grace as the older human ancestor in the land of Palestine. Upon the farm of Dr. Lowe, same county, the growth of cotton-wood in ten years is twenty-five to forty feet high, two feet six inches in diameter, and the apple tree one foot six inches in diameter. Mr. S. T. Kelsey, of Pomona, Kan., who has tried all kinds, places first for his State the black-walnut, next the cotton-wood, and last the silver-maple; for evergreens, the Norway spruce, white, Austrian and Scotch pines, red cedar and Osage-orange. I have no doubt that throughout the vast country of 600 miles from the plains to the base of the Rocky Mountains, and from the north boundary of Nebraska to the southern one of the Indian territory, there can be grown on every variety of soil some one or more kinds of valuable timber trees; and the facts demonstrate that where trees are once planted, the climate gradually changes, and showers fall from the skies and water them where rains never were known before.

H. T. W.

Biennial Meeting of the American Pomological Society.

THE reunion at Richmond of horticultural friends and members of the Society, was held under many favorable auspices, and proved extremely pleasant and successful. The utmost good nature and cordiality existed among all, and nothing occurred to mar the enjoyment of the occasion. Quite an effort had been made to induce a larger delegation than usual from our Northern Societies, in order to show to our Southern friends our interest in their welfare, and encourage them by an attendance which would elicit special interest. And it is gratifying to notice how freely the response was accepted, and how well our Northern and Western Pomologists seconded the effort by attending in person in large numbers. Boston, Illinois, Iowa, Kansas, Nebraska, Michigan, were well represented either by societies, prominent individuals, or exhibitions of fruit. And it was hoped that now, since an opportunity of unusually favorable character was afforded the South to exhibit their product, it would be accepted and grandly responded to.

We need hardly repeat here our disappointment. For with the exception of the fruits of Virginia, whose growers had manifested the utmost interest and zeal in rendering the whole occasion a creditable success at least to the old Dominion, yet the display from other Southern States was meagre, and indefinite. It seemed as if

there was either an apathy in interest, or a constitutional inertia and indisposition to effort, which rendered it an impossibility to gather together the right material, and form an union of heart, hands and products in supporting so worthy an institution. We speak frankly, for the fact is not to be disguised that the South did not respond as freely as was expected, nor as much as would have been to her credit.

But the overflowing generosity from other States, as well as from private individuals, more than relieved the vacancy, and as an exhibition of native American fruits, it is truthful to say, it has never been excelled.

At the last session of the Society in Philadelphia, two years since, it will be remembered that the first prize of honor was bestowed upon the fruits of Kansas, and the award has been to her citizens a matter of pride, congratulation, and even of National fame. That so young a State should thus distance all competitors from the older portions of the country was thought remarkable, and an event of unusual importance.

But at this meeting we are glad to see that the prize was awarded to a State younger still, *Nebraska*, who we have long felt, if afforded the proper opportunity, would distinguish herself in a worthy manner. Her capabilities are not one half understood by our people, and the prize is all the more remarkable from the fact that the fruit is grown in a country hitherto considered entirely unsuited to fruit culture, and the latest of all our States, which has devoted any attention to the subject.

The discussions of the Society extended over three days; considerable time was devoted to business matter and the organization of its meeting, after which the revision of the fruit lists received the attention of the members. Very little news was developed in this line, and we must consider the occasion successful, principally for the opportunity it afforded for a pleasant reunion of friends, and a fine display of fruit.

The Annual Address of the President.

Marshall P. Wilder, of Boston, dwelt gracefully on some of the leading horticultural topics of the day. He paid due tribute to the memory of those distinguished Pomologists who were dead and gone. Then he contrasted the progress of the Society from its opening, when it numbered but one hundred and seven members, to the present time, when there are three hundred and eleven; and also to the wonderful extent of fruit culture and facilities for transportation, the evidences of which are seen in the fact, that our fruit markets are now supplied with fruit from New England, the Middle States, California, Carolina, Georgia, Virginia, Delaware, and other points, one to two thousand miles apart.

The leading points of his address are as follows:

- 1st. The influence of warm, dry seasons.
- 2d. Draining of fruit lands.
- 3d. Preparation and cultivation of the soil.
- 4th. Manures and their application.
- 5th. Mulching.
- 6th. Thinning of fruit.
- 7th. Insects and diseases.

8th. Shelter.

9th. Meteorology.

10th. Originating new varieties.

The fruit collections exhibited were principally as follows:

From Nebraska.

There were 146 varieties of apples, 15 of peaches, 13 of pears, one of plums, one of grapes — contributed by the Nebraska State Horticultural and Pomological Society, of which J. H. Masters is President, and R. W. Furnas is Secretary, and were raised principally in the neighborhood of Nebraska City. Much of the fruit had been a week on the journey, and it is very much to the credit of the State that its fruit should have borne transportation for so long a distance and so well as to make a better appearance than all others. It received the first prize of the Society for finest collection.

Kansas

Was represented by contributions from the Kansas Horticultural Society, under the supervision of Drs. Housley and Stayman. Two hundred varieties of apples were on the table, believed to be the largest number of any in the room. They had also 20 varieties of pears, and 20 of grapes.

Dr. Stayman also exhibited 50 varieties of apples from his own orchard. The Kansas fruit was noticeable for its fine size and color.

Michigan

Sent from Grand Rapids, [under the care of A. T. Lindermann, 108 varieties of apples of very superior quality, 10 varieties of pears, five of grapes, and some peaches. The fruit was packed well and arrived in excellent order.

Illinois

Through Parker Earle, exhibits 200 varieties of apples, and also a fine collection of pears.

California.

The California collection attracted perhaps the most interest. A great variety was displayed, and almost every specimen was remarkable for its superior quality. The fruit had been carefully packed by experienced hands, and was in excellent preservation. Apples, pears of mammoth size, figs, grapes, plums and oranges were on the table, but the grapes with their large luxuriant clusters far exceeded anything else of the kind on exhibition; the pears also were beautiful in color and size. This collection was in charge of Dr. Curtis.

Iowa

Seemed to win special admiration for her display of apples. These were represented by two exhibitors, Mark Miller of the Western Pomologist, at Des Moines, and H. Leonard of Burlington, Iowa. Mr. Miller shows 118 varieties of apples, which attracted considerable interest, from the fact that they were raised in the vicinity of Des Moines, where, twenty-three years ago, not an apple tree of any kind was known. Mr. Leonard exhibits 115 varieties of apples and 35 of pears. All the

fruit was in admirable condition, having been well packed and safely transported. It was the center of quite an enthusiastic crowd of admirers, who were free in their expression of praise of the beauty, size and color of the fruit.

From other sections, are the following : Ellwanger & Barry, of Rochester, N. Y., exhibited 150 varieties of apples.

Marshall P. Wilder, of Boston, shows 280 varieties of pears, a valuable collection raised on his own grounds.

The Pomona nurseries of Cinnaminson, N. J., Wm. Parry, proprietor, is represented by 26 varieties of pears and three of apples. This collection is very fine.

Minnesota

Is also well represented. The localities represented are Minneapolis, Winona, Lake City and Lake Crescent ; P. A. Jewell, of Lake City is the exhibitor. He displays 50 varieties of apples, several of pears, three of native plums, and one lot of seedling grapes. His assortment of Siberian crab apples is probably the finest ever shown at a national exhibition. Some of these apples are of the finest flavor, notwithstanding the proverbial bitterness of their species.

Washington, D. C.

John Saul, of Washington, representing the Potomac Fruit-Growers' Association, sends an attractive assortment of apples and pears.

The Agricultural Department of the United States Government contributes fine specimens of pears and wine grapes.

Virginia.

The largest number of contributions are from Virginia. Much the finest display of pears was made by G. F. B. Leighton, of Norfolk, Va. Their unusual size and fine flavor were the occasion of considerable attention. Quite a number of them averaged neatly a pound each. The varieties most successful with Mr. Leighton are Duchesse, Seckel, Bartlett, Louise Bonne, Beurre Diel and Beurre Superfine.

Capt. H. B. Jones, the veteran pomologist of Rockbridge county, is on hand with his usual fine display of fruit, raised in his own orchards. He exhibits this year 110 varieties of apples, including 14 native seedlings ; 11 of pears, 8 of grapes, and 10 of peaches.

Franklin Davis & Co., of Richmond, have of apples, 100 varieties ; of pears, 25 ; of peaches, 15 ; besides several kinds of grapes.

H. R. Robey, of Fredericksburg, three varieties of grapes, 23 of apples, and 22 of pears. Pretty assortment.

Wm. O. Hurt, of Bedford county, 51 varieties of native apples—making a most creditable display.

H. C. Williams, of Fairfax, six varieties of pears, 36 of apples, and six of new native grapes.

Gillingham & Co., of Accotink, Va., display a fine lot of apples and pears.

Albemarle county sends a splendid assortment of apples, exhibited by Tyree Dollins & Bro., of Batesville. They have catalogued 200 varieties, many of which are superior native seedlings.

The Virginia Nursery and Wine Company (Allan & Johnson, general agents), show eleven bottles of Virginia wines, including samples each of Norfolk, Herremont and Concord, and one each of Clinton, Catawba and To Kalon.

We have not space for enumeration of all the exhibitors, but the display from Virginia was most creditable, and establishes beyond conjecture or doubt, that the State is worthily pre-eminent in her advantages for fruit culture.

The proceedings were pleasantly varied during the stay of the members at Richmond, by an excursion to Dutch Gap on one of the James river steamers, also a reception by the Mayor of the city, and speeches of welcome with appropriate responses.

Assembly Hall was tastefully decorated, and when the Society was dissolved, it was admitted by mutual consent to be the most enjoyable session held since its organization.

The next Biennial meeting will be held at Boston, in the Fall of 1873, when the 25th, or silver wedding anniversary will be honored with a greater display of fruit than ever. The same officers were re-elected for the next session.

Suggestions for Improvement of the Influence of the Society.

Several members have expressed to us a kindly, yet firm, disapproval of the manner of the literary exercises of the meetings of the society. For instance—

1st. Too much time is wasted in mere preliminaries of business organization, etc. Sometimes an entire day is spent, and even then matters are left unfinished.

2nd. The revision of the fruit lists needs an entire change of management. At present some person of careless or irresponsible judgment, may either undo completely the work of three or six careful pomologists, who have previously recorded their careful observations, or he may unduly praise some varieties which have no success beyond his own vineyard or orchard. Some of the members do not appear to understand the system of *starring*, and will often *double star* a variety which does not deserve it.

3d. The revision of the fruit lists is done in too great a hurry, and is at the best a dry, unsatisfactory method of passing the time. Often more time is spent upon one section than should be, and the close of the session comes so suddenly that many other important departments are omitted entirely. For instance, at the Philadelphia meeting in 1869, the department of apples was first dwelt upon and completely, but when pears were reached it was necessary to hurry through it rapidly; and, finally, grapes, apricots, peaches, plums, etc., went without solitary discussion. And although the greatest interest was manifested in small fruits, yet it was completely shoved to one side. Some of the members then and there suggested that time ought to be devoted to culture, propagation, insects, markets, profits, etc., but everything of this nature was also put aside, only to permit the dry formality of *starring the list* to be gone through with.

4th. We are reminded of the remark of a friend in New York, who, when asked to join a new rural association, said: "Don't kill your society with a *constitution and by-laws*." And we remind the members of the American Pomological Society that it will be the same with them unless they permit *freedom* of discussion on such

topics as fruit-growers are most interested in. The mere formalities of revision of the fruit list, and the waste of a day's time in preparing for work, are not what pomologists and fruit-growers want. Solid food is necessary, besides the pleasure of reunion.

5th. We propose that at the next meeting of the Society slips of the fruit list be printed and handed around to all the members to correct, and, after endorsing his name thereon, to return to the secretary; and that no change in the fruit list be made unless there are three signatures in approval of any single variety. Let the time of the association be devoted to free discussion of varieties, pruning, soil, insects, markets, profits, etc., with practical essays on fruit subjects, culture, etc., and remarks thereon.

6th. Such an association as the *American Pomological Society* should exert an influence for good, and disseminate good, useful information. But we have watched the reports in the papers for the past few years, and beyond the report of the fruit placed on exhibition, or the description of the united enjoyment of friends who had met again after a long absence, we have yet to see a single good idea developed, and quoted to the vast body of fruit-growers outside, who were waiting for something tangible and practical which would help them in the management of their orchards. Not a single item can we trace, and the contrast is greater since so much was expected.

7th. We commend to the *American Pomological Society* the method of management of the Pennsylvania Fruit Grower's Association, or the Western New York Horticultural Society. A visitor to their discussions is always entertained, good essays are always read, and each person goes away again, feeling he has gained some really useful ideas which would pay him for his time.

We speak without censure in these remarks, for we wish the *American Pomological Society* to develop into a royal institution, but its devotion to the fruit list and matters of business organization, to the exclusion of modes of culture, will surely injure its opportunity for good, unless they are judiciously arranged in some other way.

Pomologists are searching now for something *practical and useful*, and must and will have on such occasions some sensible remarks upon culture, propagation, etc.

The interest in *small fruits* also has become of late a national department of itself, and should not be ignored. There are many new varieties of pears, yet we can gain more information about them from the horticultural literature of the day than from the volumes of the *American Pomological Society*. To be valuable, these volumes should be *complete and accurate*, but, outside the members, not one hundred copies find their way into the hands of the practical cultivators of the country. There is very little demand for them, not even as much as for the annual volume of the Illinois State Horticultural Society, which we have always esteemed a credit of worthy honor to the State and Society.

The fruit exhibitions of the Society are pleasant to see, and are silent exponents of our success in fruit culture, but we have yet to find that any of the exhibitors of

the fruit have had a fair opportunity to say a word about success in their culture and which varieties can be most commended to beginners.

These suggestions are merely offered in candor, to show that we expect a great deal from these reunions of the Society. If our highest pomological congress is intended to be only an occasion for united good feeling and enjoyment, and without any literary character, then our suggestions have no place, for we require nothing when nothing is expected. But the public look to the Society for some really valuable information, and we are anxious that it should reach the mark in its objects and opportunities of doing good. In its next meeting let us have less of business and fruit list, and more of common sense remarks on *fruit culture as it is.*

Gossip about Roses.

Colman's *Rural World* treats its readers to some pleasant suggestions about Roses, and remarks :

"Almost all persons give a preference to dark roses—those rich, deep, dark, velvety crimsons, scarlets and shades, and they certainly are, many of them, exquisitely rich, gorgeous and handsome, and the preferences are well bestowed.

"One of the oldest, and still one of the greatest favorites, because best known, of the dark race, is the *Giant des Battailles*, now over twenty years old ; the aim has been ever since among rose fanciers to beat this fine rose, and doubtless there are many now that do beat it, both in color, size and form.

"Soon after the above, came the *Lion of Combats*, a darker rose, but semi-double—very showy withal. Among the dark roses, *Lord Raglan*, a very rich and brilliant colored rose, may be taken as a sample of the flat shape ; and say *Cardinal Patrizzi* of the cupped form—both fine, dark, rich colors, but very different.

"Gen. Jacqueminot is a justly celebrated rose on account of its brilliant color, and the flowers standing high and clear above the plant, rendering it very conspicuous. *Vulcan*, as it should be from its name, is a very dark rose shaded almost black ; while *Count Cavour* is one of the brightest and richest of crimsons that are known ; while all the three are not very durable or desirable on that account. Of course, of the hundreds of varieties under name, a great many are so near alike as hardly to be distinguishable except by the connoisseur, and fifty will embrace all the desirable shades and qualities. A few good dark roses, besides those named good in many or all respects, we mean, would be *Paeonia*, *Nelson*, *Gen. Washington*, *Madame Chas. Wood*, *Glorie de Santenay*, *Jules Margottine*, *Louis Larigue*, *Monte Cristo*, *Beauty of Waltham*, *Black Prince*, and—we don't know where to stop, that's the trouble.

"Among the reds, *Baron Prevost* and *La Reine* may be taken as samples of both shapes, the former flat, and the latter cupped or cabbage form ; both old but good roses. Other good roses of these shades are *John Hooper*, *Souvenir de Elbe*, *Alexandrine Bachmetaff*, *Augusta Mie*, *Souvenir de la Reine de Angleterre*, *Triomphe de Valenciennes*, *Glorie de Vitry*, *Louise Peyronny*, and *Louise Odier* an exquisitely cupped rose.

"Of the light or flesh colored roses, we think an oldish variety called Caroline de Sansal, is hard to beat; its delicate fleshy center blending into the white, and the unfolding of its double form, with its closely set and numerous petals, is most exquisite; somewhat of the same color is Madame Knon, but more cupped. Sydonia, Madame Rivers, Yoland de Aragon, Sappho Panachee d'Orleans, Mons. Rivers, Queen Victoria, are all of this light, fleshy color, but of different habits and forms.

"Of the pure whites, which are much inquired for, Napoleon Triumphant and Dr. Heron may be named, but both poor bloomers, and the last a miserable grower. Virginale is better in both these respect.

"While visiting one of the first rose growers in England last summer, on inquiry I was informed that several new whites are really good, vigorous habits and free bloomers, and of the purest white, and a great advance on former white varieties. Three or four of the very best whites, as given by the best rose authority last year, are these: Boule de Neige, M'dlle Bonnaire, Madame Gustave, Bonnet and Madame Noman."

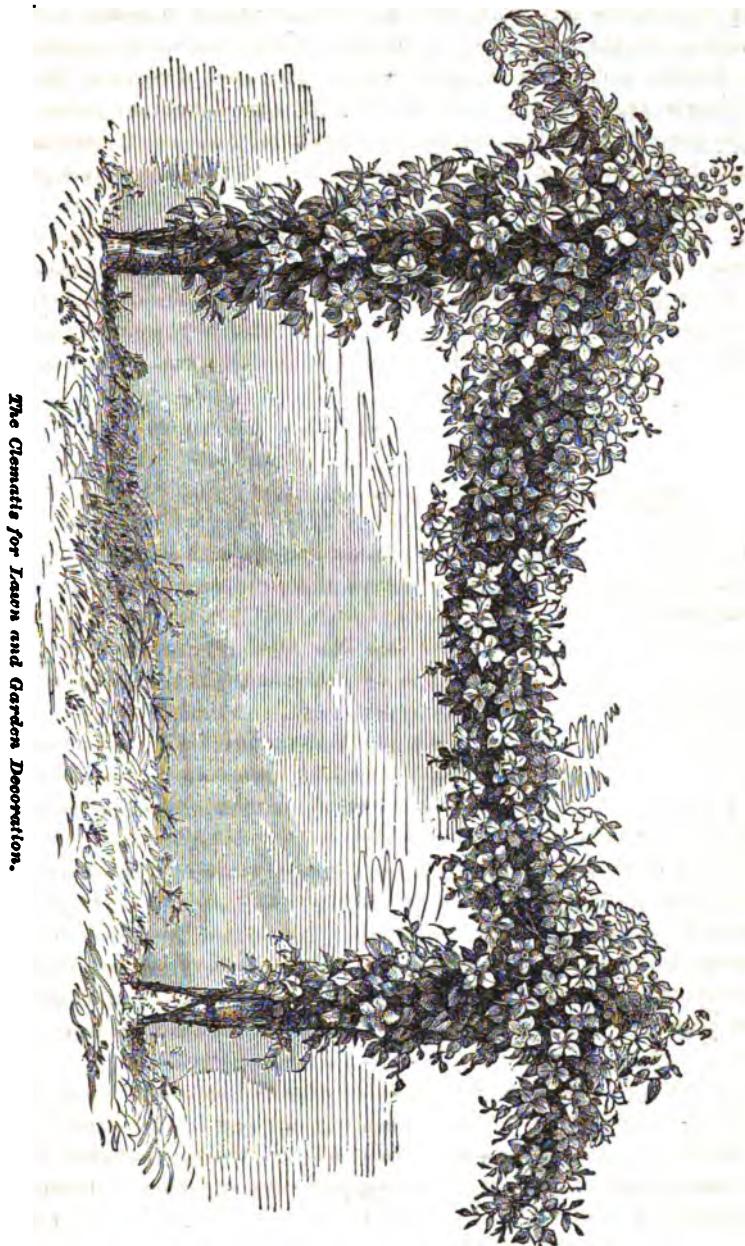
The Clematis for Decorative Purposes.

VERY little has been done in American gardens with the Clematis for extensive ornamental purposes. It has been used either in our green houses, or trained over a few small stakes and arbors in our flower beds, but, by observing this illustration and also the frontispiece of our last No. (Oct.), it can be seen our English horticulturists are employing it on a grander scale, and with many picturesque effects. A writer in *The Gardener's Chronicle* says:

"Those who have not seen the leading kinds in the full vigor of established growth, have a real pleasure in store, for whether we look upon them simply as hardy bedding plants capable of giving us sumptuous masses of matchless color for several months during the summer and autumn, or as plants suited by their habit of growth to cover masses of rock or root-work or any mural ruin with verdure and beauty, or whether we regard them in the more classic form of plants adapted for clothing the massive pyramid, or for wreathing the garden arcade or the basket with a chain of beauty—suspended over chasms or rustic banks by the sinewy arm of the hoary oak—we shall find them unsurpassable in splendor; so much so, that even the climbing rose must, for actual display, sink into the shade when compared with the glowing colors of the Clematis.

Nor is this all, for treated as pot plants, and trained upon suitable trellises for the decoration of the conservatory, the terrace, or the balcony, the Clematis promises to become one of the most useful plants in cultivation. Whether our great horticultural societies have yet seen their way to offering prizes for well grown collections of these plants, I know not; but if they have not, I hope another season will not pass without their doing so: for I feel certain that a well grown collection of these large free-flowering varieties of Clematis would form a splendid group for exhibition purposes.

The following account, written originally for the '*Florist and Pomologist*,' may



not be without interest, inasmuch as it describes some of the finest groups I have yet seen:

'In the garden of Mr. Essington, Ribbesford House, Bewdley, there are two magnificent and noteworthy beds, which, when I saw them in September last, were apparently in the height of blooming. It is difficult to imagine anything more strikingly beautiful than they were, or anything that could produce a more gorgeous effect. Being associated with the general arrangement of bedding plants, the superiority of the Clematis was very apparent, the purple bedders being altogether eclipsed by the masses of rich violet purple of C. Jackmanni, which is one of the best for bedding purposes. The beds were round, about fifteen feet in diameter, and well raised towards the center. In the center of one bed, which was planted in 1867, a few stakes about eight feet in height were placed, and these being well covered with the Clematis, formed a perfect floral pillar, which gave a good effect. The other bed, planted in November, 1868, was equally good. The plants were planted at about two feet apart, and were carefully trained. Some attention is necessary in regard to training, for if the shoots are allowed to become entangled, it is afterwards difficult to get them apart, so as to maintain the perfect proportions of the beds. At Ribbesford this had been scrupulously attended to. The plants are annually cut down and the beds well manured. The soil they do best in is a light sandy loam, well manured, and liberally watered during the growing season, for on maintaining the plants in a growing condition, for the greatest length of time possible, depends in a great measure the continuity of bloom.'

'The idea is entertained by many that the blooming season of these plants is not of sufficient duration to warrant their adoption for bedding purposes. In this doubt I frankly own to having been at one time a participator, having formed but a vague idea of their capabilities; but I have learned that by judicious treatment the season of flowering may be so prolonged as to do away with any objection on that point. To those who still doubt, I would say, give them a trial, and you will not be disappointed with the result.'

It is a noteworthy fact, that the Clematis appears more at home in the open when trained over the ground, or festooning from pillar to pillar, as shown in the engravings, than when trained against a wall. When at Ribbesford, I noticed that the same varieties, when trained against a wall, were not nearly so fresh and lasting as those growing upon the open beds; in fact, the former were a little seared in the leaf, as if the situation had been too hot and dry for them, while those upon the beds, I have reason to know, remained fresh and vigorous so late as the end of October. Thus these beds had been in fine condition for four months, and were really splendid for three months—and that, be it remembered, at the end of the season, when tender plants generally are getting shabby. So rich and glowing are some of the colors, that at a distance the beds might be mistaken for dense groups of Irises, so unusual are they in aspect.

One of the most useful purposes to which these Clematises could be put, would be to drape a ruin, or to cover unsightly banks or slopes. They will grow almost anywhere, if the roots of other plants do not rob them of their fair share of food, and

nothing more is necessary than to throw in a few tree roots or rough branches for them to scramble over. While, however, it is evident that the Clematis will grow almost anywhere, let it not be inferred that they do not well repay the use of good soil. The most suitable for their cultivation appears to be a deep rich sandy loam; and therefore upon heavy soils it will be necessary to drain the beds, and to trench-in such a portion of vegetable matter as will bring the soil to a proper consistency. Good soaking of liquids, during the growing season, especially after the plants have been planted a year or two, will be found to be of great benefit.

As to pruning, when the plants are once established they may, for bedding purposes, be annually cut to the ground, in the manner of hops; but for festooning it will, of course, be desirable to retain the wood in its entirety so far as it is properly ripened, and hence in the winter-pruning, cut with that object. When growing in a wild natural manner, it will be wise to prune as little as possible.

The engravings, which it must be observed, are from photographs, and not drawings, show very plainly what the plant will do when judiciously treated according to the instructions conveyed in the preceding remarks. Among the best varieties for decorative purposes may be mentioned:—*Clematis Jackmanni*, *C. Rubro-violacea*, *C. Rubella*, *C. Prince of Wales*, *C. Lady Bovill*, and *C. Thomas Moore*."



Subtropical Gardening.

BY ROBERT MORRIS COPELAND.

A FEW tender ferns introduced into the flower garden, or in the lawn near the house, prepare the way for masses of wild ferns in more distant parts of the grounds, where, with ferns, or amongst them, we shall set *Weigandia*, *Solanum*, *Nicotina*, *Uhdea*, *Heracleum*, *Azalias*, *Ricinus*, etc. The large leaves of these plants stimulate the imagination, and clothe the edge of the wood with a rich mantle of vegetation. Palms should be confined to the flower garden, and near the house, as they are of slow growth, and are fine in proportion to their size, therefore we cannot expect any one to have many; indeed they will always be the rarest of plants for summer decoration. The *Muras* and *Ficus*, and all the leathery-leaved plants suffer from high winds, though they are hardy to the sun, and if we want to preserve their entire beauty we must give them wind shelter. *Ferdinanda Emineus*, *Musa Ensete*, and any of the lusty growing subtropicals take too much room to winter to be desirable, but to see one of them in its glory will repay one for a long journey. The subtropicals, which depend for their beauty on the color of their leaves, like *Dracena Terminalis*, the *Caladium*, *Marantas*, and the like, increase in value as they grow, and as their foliage attains size and vigor, therefore it is an object to protect them carefully in winter. A brilliant-leaved *Dracena Terminalis* is one of the most beautiful plants for house decoration that we can have, and to make them available they should be plunged in pots or tubs in summer, so that they may be moved in winter without danger. Where plunging is made a business, it is not very tedious or bur-

densome, and one can, by keeping his plants in pots, change the appearance of his garden at very short notice. To maintain a fine show in summer, if a large number of plants are to be used, requires a heavy outlay in glass, but to have a few plants to give variety and contrast is a very easy matter. I have described these plants thus far in relation to the ordinary country place, where there is a large area which gives in itself opportunities of other kinds of enjoyment than that found in studying and watching plants and flowers. In such places, as I said before, we may use them sparingly, and ought always to expect our chief pleasure from other resources, using the foliage plants rather as curiosities than the staple of our ornamentation, but there are other kinds of ornamental grounds where they may be introduced more abundantly, and made of more consequence. As a good stock of tender plants can be raised and kept only by the aid of green-houses, gardeners naturally recommend those to their employers.

Every man who loves his art or occupation, or who is reasonably well contented with it, expects, or at least hopes, that his fellows will hold the art or his work in as good estimation as he does, and where he labors to produce a result, finds a great part of his reward in the praise it received. This makes all gardeners and florists urge upon country people the pleasure and satisfaction they will find in cultivating plants and flowers, native and foreign of all kinds; and as flowers and beauty of all kinds do affect every sympathetic mind to some extent, the number of persons who begin or carry on floriculture every year increases. But beautiful as flowers are, and interesting as subtropical or curious-leaved plants become to one who collects them, it cannot be denied that they are troublesome and often costly, and one who goes into the country for quiet and repose, hopes he may be excused if he turns a deaf ear to all who advise him to begin on any kind of floriculture which requires a great deal of annual care, and continual replacement.

Whoever lives in the country beyond the smoke of city or factory chimneys where the bells come only as soft music through the air, ought to have in lawn and shrubs, woods, water and landscape, so much to enjoy that there is little need of any mere local beauty or pleasure to attract his thoughts or wile away his time; but the number who can live in that way are few, and most men must be contented with a small town or suburb lot, where the acres are counted by feet, and the landscape bounded by a neighbor's high wall or fence. In such small places the resident need not be debarred from rural or floral pleasure if he will make the most of the little land which he has. The walls may be supports for running roses, woodbine, ivy and honeysuckle; the shaded corners suit the colored-leaved plants that suffer from the sun and dry heat; the narrow borders may be enriched with the gold of Calceolaria, Scarlet of Pelargonium, Crimson of Coleus. The smaller the space the greater the need of thoughtful planning to get the utmost from the land; and aided by the colored leaves or large or quaint foliage of the subtropicals and ferns, the few hundred feet of a town lot may become as varied and beautiful in its way, as the widest landscape.

The owner of the town lot should at the outset throw aside all thought of cultivat-

ing fruit or vegetables, excepting such fruit as will grow best on walls and espaliers, like grapes, pears and peaches.

The vegetables which are so good when fresh, and so much better than the purchased supplies of the market, occupy a great deal of room for the return they give, and although a thoughtful man and good cultivator may get three crops in a season from land well managed; his peas following salads or radishes, to be in turn replaced by tomatoes or celery, most men will not be careful enough, and will sacrifice a large space to a crop of peas, that will be gone in three weeks, leaving empty land and unsightly brush behind. It should be an axiom with the owner of every small place, "that beauty is better than booty," and that the land he owns shall give, during eight months of the year, a crop of enjoyment to the eye and mind rather than feed the stomach for a few weeks without materially lightening the drain on the purse.

When discussing how to plant and group subtropicals in small areas, it seems useless to get up plans for planting the many little parallelograms and squares that might be devoted to such culture, for, whether the house is in the middle, or at one side, in front or rear, the land is so limited that there is but little chance for other variety than can be produced by varying the tints and colors of the flowers, and the kinds of plants whose foliage is to contrast with the flowers or each other. The single treatment I show, with its explanatory index, is not proposed as the best, or only one, for with the multitude of flowers and plants, there may be infinite variety in using colors. We may prefer this year to have only contrasts, and next year harmonies of color. We may give our land one year to a few families of plants, beginning with Spring Bulbs, then Roses, next Lilies, Gladioli, ending with Chrysanthemums, never letting a Verbena, Heliotrope, Pelargonium or Coleus show their heads; another year we may banish the Roses and their supporters, and carpet the earth with Lobelia, Verbena, Gnaphalium, Clentaura and Coleus, and dot the grass with tufts of Tritoma, Pampas Grass, Cannas and Ferns. These plants, which may attain a real perfection in a single season, can be changed very easily, and thus permit endless variety. I do not care to dwell so much on the way of doing this kind of work, as its importance, and to stimulate the owners of small places to give all their available land to combinations of hardy and tender plants that will yield beauty of some kind almost all the year. During the winter, as a matter of course, we can hope for very little vegetable beauty; our reliance must be on evergreens, and as evergreen shrubs and trees are few in kinds, and the trees great consumers of room, we must, in small places, be contented with rather bare surfaces during the winter, although beginning with Andromeda floribunda in the spring. The Andromedas, Rhododendrons, Kalmias and Hollies furnish a great deal of beauty from spring to spring, particularly when combined with the smaller evergreen trees, small in this latitude only, Cupressus, Retinispora, Thujaopsis, Pinus Mugho, Dwarf Abies and Thujas. In cities, evergreens are less serviceable than in the country, because of the accumulation of dust and smoke upon their leaves and wood; but if one has command of hydrant water, he can keep the foliage as clean in a city as in the country, and really have more beauty from evergreen shrubs than out of town, because the climate is warmer, and the plants better sheltered from wind and sun.

In city squares, evergreens are apt to look black and feeble, and to be so too, for no one knows how or cares to clean the leaves, and as they remain on the branches for a long time in the year, their pores become choked, and cannot give the air and moisture the free circulation which is desirable. Evergreens drop their leaves as regularly as deciduous trees, but only part at a time, and for that reason tangle up the smoky vapours, and hold on to a greater amount of dirt than is easily believed, but city air and warmth, manure and water, give the bedding and subtropical plants a climate just suited to develop their perfection, and any man who has 200 square feet may, in his degree, produce as much beauty and satisfaction as can come from one hundred acres. The owner of a small place, who must confine his range to narrow limits, learns to love and know his plants, and to note their minute differences, and it is almost always among them that we find the most successful competitors for prizes in particular class of plants at flower shows, and the most critical eyes to detect perfection and imperfections.

Hybrid Fruits and Vegetables.

IN the *Horticulturist* of August, in a paper upon hybridizing and kindred matters, Mr. Jacob Moore, of Rochester, N. Y., thinks the strange specimen of fruit from Mr. Arnold, described in the *Gardener's Monthly* of February last, as an apparent hybrid between the apple and pear, could not have been produced by the influence of apple-pollen fertilizing the blossoms of the pear. It seems to me, if we admit the fact that such a fruit was produced upon a pear tree, differing entirely from its natural fruit, and which "much more resembled apples and pears, both in flavor and appearance," and though it had seeds like the pear, had "apple pulp most undoubtedly," we shall be very much at a loss to account for it upon *any other* supposition than that it *was* produced by cross-fertilization from pollen of the apple.

Though I have been engaged in hybridizing and crossing grapes and other fruits, flowers and vegetables for many years, I have never tried to cross-breed the pear and apple, nor have I seen any indication that it was practicable; but I have noted several instances where the pollen of fruits and vegetables, especially corn, apparently influenced the products of the same year they were fertilized. I well know, however, that this is not the usual condition, and fully recognize such cases as abnormal, or as variations or "sports" familiar to most florists and horticultrists.

The first fact bearing upon this subject which came under my personal observation, was the following: Two apple trees standing near each other, bore fruit entirely dissimilar. One was bright red and oblong-conic or pointed in shape; the other oblate or flattened, greenish yellow, with no shade of red. Upon one of the small upper branches of the red apple tree, within the space of eighteen inches, there grew some half dozen of the small *yellow* apples, oblate in form, and in all respects like those of the other tree. Upon either side of them, both next the tree, and at the end of the branch were the *red* apples, of their natural form and color. My first impression was that this limb had been budded or grafted; but the most careful examination gave no such indication. And if so, a double operation would have been required: first, the *yellow* apple scion, and this afterwards regrafted with the *red*. Possible,

certainly, but I think not without leaving marks or traces of the process, as the limb where this strange freak occurred was only about half an inch in diameter.

A subsequent occurrence impressed me at the time as affording at least presumptive evidence of the direct influence of foreign pollen upon the fruits of the same year. A cluster of the Logan grape which I had hybridized with pollen from the Black Hamburg, had larger berries, and colored earlier than the others upon the vine. When they seemed well matured, I gave this bunch to a little invalid son, telling him to eat the grapes, but save me the seeds. He ate them with great relish, saying they were very nice. A week later, when the remaining clusters seemed fully ripe he asked for more of them; but these he pronounced sour and distasteful, and not at all like the others. Nor could I induce him to eat any more from that vine, as he persisted that they were wholly unlike the first, or hybridized bunch. I am, however, compelled to say I have not since been able to verify this impression by observations of my own.

Mr. Moore also does not believe corn will under any circumstances mix, so as to produce apparent change the same year. As to the corn, I am obliged to confess myself somewhat "mixed;" but I feel quite prepared to take either, or both sides of that question, as the following experience will show:

I have been for several years endeavoring to produce a sweet, or sugar corn earlier, and with larger ears and larger grains than any of the early sorts heretofore grown. To this end I first planted the earliest kind of sweet corn I could procure; when this was a few inches high, I planted an extra early small white variety known as "Early Garden Corn," beside it. Upon the ripening of this corn, I certainly found, in the first year, many grains of the sweet corn mixed upon the ears of the small white variety. These grains I carefully saved, and the following year planted them in a row adjoining the "Early Garden," but at the same date. They apparently matured at the same time, and both were mixed. The ears of the sugar corn had a few of the hard, white grains of the garden corn; and the latter, in the row nearest it had also some grains of the sugar corn, though each mainly retained its distinctive character.

The grains and ears of both these kinds were quite small, and wishing to make an improvement in these respects, the next year I planted the "Farmers' Club," a medium early sugar corn of excellent quality, having very large grains; and when it had grown about a foot high, planted near it a few grains selected from the earliest of my small sweet corn. This I watched very closely, and as soon as the tassels appeared, and before any pollen was formed, they were cut clean out from every stalk. When the silk afterward appeared it was carefully dusted with the tassels from the Farmers' Club corn. When the ears thus fertilized were matured, the size of the grains, and whole appearance was precisely that of the Farmers' Club, and quite unlike the small variety planted. It could not have been *previously* impregnated with the Farmers' Club corn, for this was the first I had grown, and in the first year of its introduction.

This corn was planted the next season, and the result was truly gratifying. No vestige of the "Early Garden Corn" was apparent; but instead, a very early true

sugar corn, ready for the table just seventy days from planting, with large, full ears, large grains and very small cob, and with one exception entirely unmixed

The exception above alluded to, is a puzzler. This corn was selected and planted with my own hands, and none but the largest and most perfect grains of true sugar corn were used; and no other corn grew near it. During its growth, however, I observed one stalk much stronger and taller than the rest, also considerably later. From this stalk I carefully cut the tassels before pollen had formed, and upon the appearance of the silk carefully dusted it with pollen from the surrounding tassels of unquestionable sweet corn. My surprise, and I may also add disgust, may be imagined, when I found the result to be an ear of the most *common yellow field corn*, pure and unadulterated; not a sweet corn grain upon it! I intended to have planted this yellow corn and noted the results the present season, but in the multiplicity of other occupations neglected it. I still expect to do so another year, as I have carefully saved it.

The character of the early sugar corn produced as above described seems permanent. I tested it the present season with Brills' early, and *extra early* from Bliss & Sons, and am happy to say it came out triumphant a week to ten days ahead of all.

Delaware, Ohio.

GEORGE W. CAMPBELL.

Mulching Grape Vines with Straw.

BY D. S. CARPENTER.

Read before Wisconsin State Horticultural Society.

I PLANTED one thousand vines of Concord on ground plowed twice, but new and full of live roots of oak trees that had been grubbed, so that I could not pulverize it as I wished.

I erected trellises before planting, and placed the rows five feet apart, with four feet in the rows. Nearly all the plants had strong roots, and grew with a strong, healthy growth. Immediately after setting, I covered the whole ground nearly six inches deep with straw. Having covered my earlier settings with straw, instead of earth, to protect them from the inclemency of our unfriendly winters, and having met with such good success, with that material, I resolved to carry the experiment to its ultimate, and so far as I am capable of judging, with the best results; for the straw not only preserves the cane and the fruit buds from sleet and frosts, which, unprotected, are almost invariably destroyed in this climate, but it answers several other valuable purposes:

1st. The straw keeps the frost in the ground in the spring longer than it would be kept there if the ground be bare, thus keeping the buds retarded, so as to be completely out of the way of the late frosts.

2d. This check in the spring is more than made up by the stimulating heat of summer, aided by the retention of the sun's heat by the covering of straw during the night, and this artificial stimulus ripens my grapes a week or ten days earlier than their season without mulching.

3d. Straw covering has proved more efficacious, in saving the vines from injury, than any other covering I am acquainted with. I have never lost a single vine,

while seven-eights of all the vines in this county, covered with earth, a few years ago, were killed by an early sleet and accompanying freeze.

4th. The straw covering keeps the ground constantly moist, even during the obstinate drought of last season, and is supposed to greatly prevent rust, oidium or mildew, rot and blight, as I have had nothing of the kind on my vines for the whole period of my experiments, either in dry or wet seasons; except last year, which was exceedingly wet and backward, I noticed a few berries on the Catawba and Diana that exhibited the dry black rot.

5th. It was predicted by others, and in fact somewhat feared by myself, that the straw would be a burrowing place for mice and rabbits that would destroy my vines, and be a nest for the propagation of insects, yet I have never been troubled in the least with either. I noticed three seasons ago some few black aphis on the terminals of some of the vines, which I cut off and threw into the lake, since which I have seen nothing of these little black foes.

6th. The straw is an excellent gardener as well as winter protector, for if judiciously distributed it not only keeps the weeds from growing, but it keeps the ground "as mellow as an ash heap." It invites the bugs and worms (incapable of boring the grape roots) to the surface of the ground, it always being moist and soft; that surface is continually pulverized and vitalized by these industrious denizens of the soil. The straw not only accomplishes irrigation, but the finest cultivation, enabling the long fibrous roots and rootlets to secure their proper nourishment on the surface, in the richest and mellowest soil, without compelling them to penetrate hard sub-soil in search of nourishment, and to avoid the burning effect of the sun's rays. The straw mulching secures plenty of heat and abundance of moisture, which stimulate the ripening of the wood and fruit to a remarkable degree.

7th. Straw contains considerable ammonia, which has a great affinity for nitrogen, and collects that useful gas from the atmosphere and retains it for the diffusion of sugar and the nitrates essential to the value of the fruit, etc. And besides, the woody matter of straw returns to vegetable mould, thus adding vastly to the development and strength of the cane, etc. Phosphate and carbonate of lime are also deposited and retained in a degree, adding greatly to rapid growth and early maturity.

I have now some 1,500 vines, and the weeding and cultivating have scarcely cost me a dollar a year. I have had some weeds to contend with, but it was wholly owing to a defective distribution of straw. I use from eight to ten loads each fall, covering the whole ground to the depth of six inches. In the spring as soon as the lilac leaves have half their growth, the vines should be uncovered and tied to the trellis, and leave nature and summer pruning to do the rest.

In 1869—the first bearing year of the 1,000 Concordes I had planted in 1868—the vines were literally covered with fruit; very few vines had less than ten pounds, while some of them contained not less than thirty pounds. The branches were exceedingly well formed, with very large, plump berries. I could fill my bushel basket with pound bunches. I estimated that on the whole piece (about three-quarters of an acre) there could not be less than 10,000 pounds.

The crop, for the first one, being so intensely heavy, I did not expect to raise many the present year; but, though I was absent the whole summer, and did not trim them at all, but permitted them to "run at large," I could not perceive much difference from the bountiful yield of the previous season. I think the amount was somewhat less, but they were of better quality and flavor, and ripened a month earlier than last season.

I had never known straw to be used before, as a cover, a mulch or a cultivator, but for ten years I have used it with most excellent success. I believe it saves one-half the otherwise necessary labor in this climate, producing earlier and better fruit. Hens should not be permitted to range in the vintage, for they will not only destroy much fruit, by promiscuously picking open the berries, but will so scratch and scatter the straw as to render it useless for the purpose intended.



Editorial Notes.

The Horticulturist for 1872.

Once more, the publisher asks the friends of **THE HORTICULTURIST** to assist him and it in good words and faithful endeavors. Every one of its present readers knows it has been vastly improved since it came into the present hands; in reading matter it has been filled with popular, useful, practical and dignified literature; it has been printed with taste; its illustrations have been tasteful, and increasing constantly in excellence and numbers, until now, we think, no one will dispute our claim that it is the best and most abundantly illustrated horticultural journal in the country. Among later improvements worth mention, is the introduction of Tinted Frontispieces in every number, with superior printing, and at the same time, notwithstanding these increased attractions and efforts to please our readers, its subscription price has been reduced, both yearly and in clubs. Has not the publisher done his best? Do not our readers think it is worth some effort and good word or work of appreciation from them?

Bring in the new subscribers and clubs—old friends, renew every name, and promptly. Say a good word for it among your neighbors, and bring in the new names freely. By special notice elsewhere, we have announced that, on and after this date, the subscription price will be reduced to \$2 per annum to all paying strictly in advance. For the coming year, we will be able to give richer and more tasteful illustrations than ever, while the literary matter will be as fresh, pleasant, practical and entertaining as ever.

The Trophy Tomato.

Much enthusiasm was elicited in the former part of the fruiting season by the growers of the "Trophy," and some ecstatic remarks have been freely quoted by the press. We found recently, on a trip to Delaware and Maryland, and in the neighborhood of Philadelphia, that, after trial, the New York Early Improved Smooth Red is preferred to the Trophy for a market crop. The Trophy, in the southern portion of the Middle States, does not seem to bear as large a crop as on the heavy soils farther North. Likewise, it has been found to grow rough and more rugged in outline each year, comparatively few specimens being entirely smooth. Gardeners say that they can get more baskets to the acre of the Smooth Red than the Trophy, although all admit the latter is equal to all representations as to flavor and solidity.

Grapes.

We believe grape growers this season have made money. The quantity raised was not so overwhelmingly large as last year, and the varieties have been more gradually brought into the market. The Early grapes from the South have averaged 10 cents per pound to 12 cents, while other grapes from Central New York have brought 7 cents to 8 cents steadily. We may mention, as an evidence of the increase of the

grape trade, and the enormous quantities sold in this city, that one dealer (Mr. C. W. Idell, the Grape King of dealers) sold in one day over 4½ tons, or 9,000 lbs., and his daily average is from one to three tons. There are probably 30 to 50 other dealers in the city selling grapes also.

The demand for grapes strengthens as cool weather approaches. Peaches are all gone, early pears are gradually disappearing, and grapes reign alone as the prime fruit of the market. The three greatest fruits of our city markets now are strawberries, peaches and grapes.

Grafting Grapes.

The Old Mission Grape of California has been so extensively planted as to become of very little profit to the vineyard owners. But a sagacious individual at Oakland, Cal., has been buying up quite a number of these vineyards, and grafting the vines over to the White Muscat of Alexandria and the Flame Tokay varieties. With three men, he grafts 1,000 vines a day, and the success of the practice is said to be assured, few grafts failing to grow, and in the first year of bearing yielding one ton of grapes to the acre, the second year three tons, and after the third year a full crop regularly. They are considered worth \$100 per ton.

Mr. Peters's Pear Orchard.

In our October article, we were unable to give precise statements about Mr. Peters's famous pear orchard, but since that time he has favored us with additional facts. There are in all, near Wilmington, 200 acres of land, mostly in orchards and nursery stock. Of pears, he has 5000 trees, mostly four to six years old, and many just in bearing. Each year, varieties found worthless are re-grafted, until now the list of varieties desirable for general culture is quite small. He believes that dwarf trees, if properly selected, planted and cultivated, are quite as profitable as standard trees, and will produce the same amount per acre.

In his fruit farm near Newark, Del., there are 150 acres more, with 10,000 trees. The orchard is very favorably located upon the slope of a hill. The soil is loose and stony, also naturally well drained. Trees are eight years old. Varieties most preferred are Duchesse, Lawrence, Vicar, Seckel, and Onondaga. The standard trees are planted 24 feet apart, then a row of dwarfs between, and a dwarf between the standards in the same row, so that all the trees are 12 feet apart.

The fruit is of extraordinary size and quality, and considered superior to even the best California Bartletts Mr. Downing had seen.

The pears were packed in barrels and sent to Boston, returning prices of \$13 to \$20 per barrel, or \$5 to \$6 per bushel. The following are specimens of returns:

Aug. 12. Shipment of 21 barrels.....	\$297 00
Deduct freight.....	24 57
" Commissions.....	29 70
	54 27
Net	\$242 73
Aug. 15. Shipment of 18 barrels, 5 sold at \$18, and 13 at \$15.....	\$285 00
Deduct freight.....	20 06
" Commissions	28 50
	48 56
Net.....	\$236 44

Mr. Peters's success he attributes entirely to thorough cultivation, and believes that the high quality of his fruit is due to *tillage* entirely. His orchard is also entirely free from blight.

The Isabella Grape.

For Southern latitudes, we esteem this the most valuable of early black grapes. It ripens as early with us as the Hartford or Ives, and, as an eating grape, is infinitely better in flavor. Bunches are large, handsome; berries never drop off; and fruit has a very fine bloom. The vine is a rampant grower, and just as healthy as the Concord. Extremely productive.

The Kittatinny and Wilson Blackberries.

We find a large number of Southern growers this year very much dissatisfied with the Wilson Early, and the tide seems to be turning again in favor of the Kittatinny. In the West, one cultivator says: "No other named variety is worth a moment's notice, in comparison with the Kittatinny. One great requisite of success with him is *not* to cut back the canes in spring, as they never furnish more blossoms than they can perfect in fruit. But thorough pinching back the previous season is of the greatest importance."

The popularity of varieties in New York varies with each season. Last year the Wilson was most popular; this year the Dorchester was the favorite.

Mr. Vick's Flower Farms.

James Vick's flower farms at Rochester are more extensive than are generally known. For instance: The Verbena bed measures three-quarters of an acre; Asters, one and a-half acres, containing about 20 varieties in all colors; Phloxes embrace about two acres, with 20 varieties; Dahlias, two acres; Lilies, one acre; Tuberoses, three-quarters of an acre. He has, we believe, three farms, numbering over 75 acres. The visitors to the Saratoga Fair, last September, also the State Fair at Albany, in October, will remember the beautiful displays of flowers contributed by him, and the grand sweep of first premiums he made in every direction.

The Wilder Grape.

Reports from Western New York this season agree in saying, "it is not excelled by any variety this year in health and fruitfulness."

Low Headed Trees.

The tide of favorable opinion for heading fruit trees low for orchard culture, is now experiencing a revulsion. Orchardists, who cultivate their orchards, and are in the habit of ploughing or stirring the soil periodically, say low headed trees will not answer. It is impossible to approach near enough with the horse and implement, and hence the high standard methods of training will hardly be given up. Low training will answer for garden culture, and for orchards where there is a good deal of hand labor. Apple and Peach trees must be trained high, but Pears, we believe, are best if grown on the pyramidal system, and this must be low to attain success.

Will it do to set Small Fruits among Standard Fruit Trees?

Once for all, NO. Very many, anxious to economize their land, wish to grow strawberries on their land, while their trees are growing upward to bearing age. We only repeat what we have often said before, such a course will be either a sure loss to the trees, or a preventive of their successful growth. No crop exhausts the soil so much as strawberries. The roots extract all the moisture from the soil, and the trees have no odds against a soil doubly full of myriads of little rootlets, sucking the life and food away from it. Blackberries are less exhausting than strawberries; currants appear to have very little injurious effect, as their shade helps the soil to retain moisture sufficient for both. In general, no plant should be allowed to grow within three to four feet of a fruit tree, and when in bearing the trees will thrive best if they occupy the soil exclusively.

Mulching.

We would remind all gardeners and fruit growers that this month is the time for covering with mulch. One inch deep will be sufficient for strawberries. We use from two to four tons to the acre.

Coneover's Colossal Asparagus.

This variety sold last spring for 60 cents per bunch, or at the rate of \$1,200 per acre. The earliest bunches came from Pennsylvania, and realized as high as 80 cents. We observe cultivators are preparing to plant largely of it for profit, one grower in Southern Delaware having already made preparations to put out 200,000 roots. Prices have fallen about one-half since spring, and plants are now quite cheap.

Notes on Raspberries.

Doolittle and Miami, both abundant bearers, we think leave nothing further to be desired in black caps. Should be planted about equally, for home use, and for market plant mostly Miami, as it is a week later and thus comes less in competition with Southern and Eastern berries.

Of the red, Kirtland gave us our first berries; an abundant crop of rather small, firm berries, of pleasant but not high flavor; canes perfectly hardy; needs a deep, rich soil to give both cane and berry more size.

Hornet gave us the largest berries; very firm, but of second quality. Franconia and Brinckle's Orange both productive and excellent. Fastolff very fine in quality; runs terribly to suckers and yet makes but feeble canes. Clark, quite productive; very best in quality; good size; too soft for distant marketing; suckers quite too abundantly except where plants are in demand. The last five named must have winter protection, and are all much improved by heavy summer mulching.

Catawissa will not stand a severe winter, and we have heretofore in the spring cut the canes to the ground (the roots never injure) and only had from it an autumn crop. In moist seasons we get a fair crop, but when too dry, very little. The canes came through the past winter without injury and have surprised and pleased us with a full crop of excellent fruit; little tart, but very bright and free from any musky flavor, which injures some of the others. Hereafter we shall try, by giving slight winter protection, to get a summer crop and an occasional one in the autumn.

Philadelphia is loaded with fruit as usual; medium size; second quality; too soft for distant marketing, but in quantity making up for all other defects. In five years with us it has *never winter-killed*, and never failed to be *loaded down* with fruit; does not sucker badly. We think it is the berry for "the million."

Ellisdale after two years trial, and Ohio Everbearing after three years, we have thrown out as too unproductive to pay ground rent.—*J. S. Stickney, in Western Farmer.*

Good Culture Pays.

Mr. E. H. Skinner, in an address before the Northern Illinois Horticultural Society said that "where I have laid out the most money in cultivation and manuring, I have realized the largest profit on the investment. Let me illustrate this: In the year 1862, I planted 86 rods of ground to strawberries, it being my first setting beyond a family supply. On this small plat I spent many days, hoeing, cultivating, and raking, making it as fine as a flower garden. All through the season, I really thought myself it would not pay, but I took great delight in having it look so nicely. The result was that I had over fifty-three bushels of extra large fruit, and it being a very dry season, I realized eight dollars per bushel for it, netting me over three hundred dollars above all labor expended, for the fruit on eighty-six rods, or little more than half an acre. This experiment induced me to plant four acres the next season, and I took the same pains in the setting out and the first hoeing, but after that I only gave good ordinary cultivation, and this field looked well; but I could see plainly in the spring following that the yield would not be equal to my first experiment. I am not able to give the exact expense of this four acres, but it was but little, if any, more than for the first-mentioned one-half acre. We picked one hundred and thirty bushels of fruit, the season being quite a favorable one. The crop sold for eight dollars per bushel, making a total of \$1,040, or about \$900 for

the crop net; \$225 per acre in the last instance, and \$600 in the first. Now, I would ask, which mode paid the best?

"In the above estimate of expenses for the first half acre, I should have mentioned the cost of nine days' work with team, hauling and applying water during the drouth. Artificial watering of the strawberry, or other small fruits, although expensive, will pay five hundred per cent on the outlay. The same principle and mode of cultivation will apply to the raspberry and all other small fruits. And if it pays to cultivate thoroughly in growing these fruits for commercial purposes, it pays equally well in growing them for home use.

Asparagus.

The Germantown *Telegraph* says:—"We repeat our doubts that there is more than one kind of Asparagus. The more we hear of the cultivation of the mammoth—a size that we do not covet—the more clear does it appear that it is the result of selecting the strong single roots for planting to begin with, and then plant them in trenches six to eight inches deep, well plied with manure at the sides of the row, and as the manured spires grow, fill in the soil, etc. As least, this is one way of getting the very largest we ever saw."

Our Leading Varieties of Peaches.

The following are the leading varieties of peaches, as sold in our fruit markets. Among the most popular, and bringing the highest prices, is the Reeve's Favorite, a very large and beautiful peach.

Hale's Early.—This peach is the first to ripen. The fruit is of medium size, nearly round, skin mottled red, flesh white, juicy, and high flavored, but rots badly.

Troth's Early Red.—This peach, which is small, round and red, is ready for the market about the time that Hale's Early is nearly gone.

Large Early York.—A variety known among growers by many names, among which are New Rareripe, Honest John, Walter's Early, etc. The fruit is above medium; skin whitish, dotted with red. Flesh white, very juicy, and good flavor. Season for them, the middle of August.

Crawford's Early.—It is of the yellow fleshed variety; large, generally oblong, but variable as to shape. Skin yellow, with red cheek. The fruit juicy and slightly acid; freestone.

Yellow Rare-ripe.—This variety, also freestone, ripens nearly at the same time as the Crawford's Early, and is much esteemed for its flavor. The fruit is large, skin orange yellow, with rich red cheek. The flesh is yellow, but red at the stone.

Oldmixon Free-stone.—This peach grows large, with a pale skin, flesh white, tender and very rich.

Reeve's Favorite.—An excellent variety, the fruit being large, the skin yellow, with red cheek. The flesh is a deep yellow, and red at the stone. The flavor is rich.

Stump the World.—The flesh is white, red cheek and rich flavor. It closely resembles the Oldmixon Freestone.

Crawford's Late.—Many think this peach to be the best of any grown, not only for its beautiful appearance, but the richness of its flavor. The fruit is large, roundish, with shallow suture; the skin yellow, with dark red cheek. Ripens from the first to the last of September.

Ward's Late Free.—A fine white fleshed freestone peach. Skin white, with crimson cheek; flesh white, and slightly red at the stone, and excellent flavor.

Smock.—This variety of freestone peach is well known for its productiveness and value as a market peach; also a favorite for pickling, preserving, etc. The fruit is oblong, skin light yellow, mottled with red. Flesh yellow, but red at stone. Season, last of September and first of October.

Heath.—A cling-stone variety of delicious flavor, and which generally closes the season, coming to market as late as the middle of October. The fruit is large, oblong, skin whitish, but slightly tinged when ripened in exposed places.

Floral Notes.

Double Zinnias.

These have been so vastly improved of late years, that a good full-blown one now is equal in size and regularity of petals to one of the miniature or bouquet dahlias. By the side of the double varieties, the older or single ones seem but little better than weeds.

Soot as a Manure.

Soot is as valuable as guano for fertilizing plants, containing a very large amount of ammonia. Dissolve twelve quarts of soot in a hogshead of water, or in same proportion for less quantities, and it will be found an excellent liquid manure. Apply it to the soil near the plants, and not to the leaves. It would be worth trying upon pot plants for in-door culture, not oftener than two times a week.

Sweet Williams.

A number of ladies have found that when their Sweet Williams and Diadem Pinks (*Dianthus*), have been closely planted together, they will be beautifully variegated with all the finer tints that usually characterize the *Dianthus*. One cultivator, communicating his experience to the *Rural New Yorker*, states that he has produced some very fine Sweet William hybrids, grown from a stock planted in the center of a bed of *Dianthus*. "The beauty of both plants seems blended in one. The plants partake generally of the nature of the Sweet William in foliage and growth; they also commenced to bloom earlier than the *Dianthus* planted at the same time. The flowers are almost all the colors of the *Dianthus*, and about fifty per cent are very large, extremely double, and marked the same as the *Dianthus*. The flowers are in clusters of three or four on a stalk of some length. They have also the fragrance of the Sweet William, which makes them very desirable for bouquets." Doubtless, just as curious results may be obtained by anyone who will follow the same course of planting the two flowers among or near each other.

Taking Care of Gladiolus Bulbs.

To make a good display of *Gladiolus* during the summer and autumn, the bulbs should be planted at intervals of two or three weeks. Those planted first will, of course, ripen first, and I have found that it does the bulbs no good to let them remain in the ground for any considerable time after the stems and leaves are dead. Many of the earliest planted are now ripe, and I am digging and drying the bulbs preparatory to placing them in their winter quarters. When one cultivates an extensive collection it is no easy task to keep each variety separate when digging, drying and storing. After trying several different methods, such as keeping in flower pots, bags and small boxes, I have adopted the following described style of boxes: Select boards one-half inch or more in thickness and a foot wide, cut into lengths of four or five feet; then take common siding, six inches wide, and nail them around the wide board, which is to be the bottom of your box. Put one strip of siding lengthways through the center, and then divide the sides into small sections, using the same kinds of boards for partitions. In this way we can have ten to twenty boxes all attached, each holding six to twelve bulbs. Such cases are very convenient, for they can be taken into the garden, and as the bulbs are lifted each variety with the label dropped into one of the sections, and when the divisions are all full, the case can be carried into some out-house where the bulbs will dry without further trouble. The cases are set away for winter just as they came from the garden, and whenever a bulb of any particular variety is wanted, it can be found without difficulty, as the label should be placed on the top of the bulbs. In the spring the cases are carried out into the garden with the bulbs, and the labels in a convenient shape for using. By using such cases as described, I have been able to keep from one to two hundred sorts of *Gladiolus* without the least trouble in the way of their becoming mixed, or in lifting, drying or storing in the winter.—*Rural New Yorker*.

The Trailing Arbutus for Hanging Baskets.

To those who may ever have experienced considerable difficulty in growing the Arbutus in hanging baskets, the following plan may prove a help, having been suggested by a reader of the *Rural New Yorker*, who was successful. For three successive seasons she beautified our little parlor with a hanging basket filled with forest plants, of which the trailing Arbutus formed the principal part. The basket was a home-made affair, fashioned of annealed wire and the skirts of a superannuated hoopskirt. Then early in April, as soon as the snow was gone, we gathered trailing Arbutus, partridge berry (*Mitchella repens*), winter green (*Gaultheria procumbens*), ferns and moss, with sometimes a plant of the yellow-blossomed wild strawberry (*Fragaria vesca*).

Having collected the plants the basket was first lined with soft moss and then filled with light forest mold. A strong root of fern was planted in the center, the other plants filled in, and the whole kept well watered. For many weeks the basket was kept gay and fragrant with the successive blooms of the Arbutus, and as they disappeared the delicate bells and bright scarlet berries of the *Mitchella*, nestling amid the rich foliage and soft moss, made a thing of beauty during the entire season. The slowly-uncoiling feathery fronds of the fern gave an exotic character to the whole, which greatly heightened the effect.

The conditions observed were: 1st. To renew the materials of the basket every spring. 2d. To select plants with good roots, growing in light leaf mold, and, in case of the Arbutus, to obtain plants plentifully filled with buds. This plant will not form buds in a hanging basket; and, indeed, so far as my observation goes, it will only do so when growing over a rock. Where acres of it were growing not one would have a bud or blossom except where there was a subcumbent rock within an inch or two of the surface. 3d. And quite as important as all the other items, the basket was kept well watered and in the shade. No sunshine was ever allowed to strike it, a cool situation near a north window being found the most favorable place for it.

**Horticultural Notes.**

In response to the question whether trees in the west should be transplanted in the fall, Mr. J. B. Richardson, of Sheboygan Falls, Wis., answers *no* for his locality. In the Middle States it will do, but not in a bleak, cold, snowless country like this. But we do approve of taking up all kinds of deciduous trees (intended for spring planting) in the fall and burying them for the winter for various reasons.

All half hardy, and even the most hardy, are more or less injured where left standing in the nursery over winter, by the many severe changes from warm to cold - sometimes half frozen to death; such trees taken from the nursery in the spring and planted, invariably half of them die or become sick, while those taken in the fall, while perfectly sound, and buried and planted in the spring, will every one grow and make a good growth. We speak from large experience, having practiced burying trees of many sorts for at least twenty years, and the trial in all cases has proved most satisfactory.

It is surprising to us that tree planters are so slow in adopting this practice, that so few obtain their trees from the nurseries in the fall, rather than defer it till spring. Certainly there is more time to make their selection and to prepare the soil for an orchard in the fall, and get the trees upon the ground ready at the earliest opportunity to plant them.

Do not wait for an agent to come round, but go or send to the nursery, get your trees; two year old is the best age, they cost less and you can get more roots according to their size, and they invariably make the best formed trees for an orchard in this climate; bring them home, select a dry place in the garden or the

orchard plot, and for the first bundle of trees open a trench crosswise the intended mound, lay down and single out the trees in this cross trench (just the roots) and let the tops lay on the solid ground; then lay on a thin stick or lath, then cover this layer half under with fine earth, press down, and by doing this you will have opened another cross trench for another variety or bundle. Lay down in same manner, fill in with fine earth—same as before and so on until all are in, then dig a trench all around the trees and cover so that the roots will be under about two feet and the top six inches; the main point in covering is to keep the tops from the sun.

If the covering is with clean fine earth and well packed, so there shall be no air-holes, they are perfectly safe. Take all weeds and other rubbish entirely away, so there can be no danger of mice getting in, and your trees will come out as sound as when put in.

All deciduous trees may be treated in the same manner, also grapes, raspberries, gooseberries, blackberries, currants, etc. It will more than pay the extra labor, for that is your insurance, that every plant you set is sound and uninjured by the severe changes during winter. This is not my advice alone, but you have it from every experienced nurseryman and orchardist in the Western States.

Blue Glass for Hot Houses.

Robert Buist, Sr., of Philadelphia, endorses the blue glass theory from his own successful experience. In a communication to *Tilton's Journal of Horticulture*, he says he "applied a coating of Prussian blue paint, six inches wide, up the center of each row of panes; the result was electric, and the plants assumed their beautiful green color in a few days, and the trusses of bloom came to maturity in a few days." The glass houses had formerly been used to grow geraniums for bedding purposes, but they had lost their color every year about the first of April. Now they were completely rejuvenated.

Eugenia Uglia.

All who possess orchard houses should procure a plant or two of this myrtle. It fruits profusely, and possesses the most delicious flavor imaginable. In general appearance it bears a close resemblance to the common myrtle (*Myrtus communis*). It may be propagated freely from cuttings of the young wood in a moderate heat.—*Gardener's Weekly*.

Sweet Violets.

The *Florist and Pomologist* says: "The sweet violets are among the most charming little gems of the spring garden, and they will grow almost anywhere, provided they get pure air; but what they most delight in is a rich, deep, loam soil, with liberal soakings of manure water during the flowering season. The following are a few of the most distinct: *King of Violets*, an improvement on *arborea*, dark violet, a good grower, free bloomer, and fit for green-house or out-door culture. *Reine des Violettes*, blush-white, very double and hardy, a free bloomer; will do either in-door or out. The *Giant* and *Czar*, if not the same, are very much alike; both have large flowers, with long stalks; which make them very valuable for either bouquets or vases. *Rubra-plena*, double red or copper color, very distinct, hardy and a free bloomer. *Arborea alba*, tree habit, pure white, one of the best for in-door cultivation, as it likes a little protection. *Devoniensis*, in bloom the whole season, and has a long flower stalk, which makes it valuable for gathering; is of a light violet color. *Neapolitan*, one of the most beautiful, second to none, remarkably sweet-scented, with charming pale-blue flowers. These are all worthy of general cultivation."

Killing Blackberry Bushes.

One of the editors of the *Rural New Yorker*, in answer to the question how to kill blackberry vines, says: I have not only planted but killed out several acres of blackberry bushes during the last ten years, and have not found either a very

troublesome task. Last summer I destroyed a plantation by simply mowing off the plants and thoroughly plowing up the roots. Not a plant lived, nor has a sucker appeared this season; and I attribute my success more to the time of doing the work than to the manner or thoroughness. The time selected was immediately after gathering the fruit, i. e., the first of August. The plants were then growing vigorously, and the stems and roots immature, consequently the cutting and plowing was too much even for a blackberry. This simple method is almost equally as certain in destroying noxious plants of other species, but the time must be varied to correspond with the growth of the plant, as some mature early and others late. Always select a time when the plants are making or just finishing their most vigorous growth.

Grapes in Western New York.

Mr. J. H. Babcock, at Lockport, New York, reports as follows: Hartford is the first for market. First shipment, August 31st; September 14th, crop nearly all marketed at good prices. The crop will net five or six hundred dollars per acre. Delaware, a week or ten days later than Hartford. The foliage is considerably affected by the thrip, otherwise healthy. Fruit meets a ready sale. Concord is a full crop, and now ready to market. For a near market, there is much profit in this grape. But it is tender to handle long distances.

Iona is apparently as late as Isabella, and whatever may be said of the high quality of its fruit, this is certainly not a variety for safe and profitable cultivation here. Adirondack is a fine table grape, but will never yield much profit as a market sort. Isabella makes close, compact bunches, but cannot be recommended for general cultivation.

Wilder promises to surpass all the black varieties as a market sort. Its bunches are as large as Concord, and much more showy and of better quality. It is an enormous bearer. I think it is producing for me at the rate of four tons per acre, and making a strong growth. Its period of ripening is a few days earlier than Concord. Its shipping qualities are equal to the Isabella.

This is my third year of fruiting the Salem, and I am more pleased with it than ever before. Among red grapes this surpasses all others that I grow. It makes a good bunch. The berry is large and very showy, and my whole crop is fit for market September 12th. They are already in the Buffalo market, and a dealer says, "they are giving better satisfaction than any variety in the market."

Rogers No. 15 is bearing a good crop and for keeping in winter this is probably not surpassed. Rogers No. 3 is nearly or quite as early as Hartford, and may prove a valuable sort for market.

Examining Winter Pears.

Make a point of regularly examining every week all the choice kinds of fruits that may be approaching ripeness or which are found not to be keeping well, so that everything may be used at the proper time, for the finest pears are worthless enough if allowed to become over-ripe before being used, and the same is the case with many varieties of apples. Also look over the whole stock as often as time can be spared, removing any fruit that exhibits symptoms of decay, and put them aside for immediate use. Any of the choicer kinds of pears that do not ripen properly in the fruit room, should be removed to a warm, dry room for a few days. This will be found to greatly improve them. Keep the fruit as dry and cool as possible, and if the frost is excluded, the fruit-room can hardly be too cool when the object is to preserve the fruit plump and sound for a long time.—*Rural Home.*

New Publications.

Iowa Horticultural Report, 1870,

Contains 140 pages, with following list of topics: Fruit Reports from District Committees; Care of Orchards, by H. C. Raymond; Early Richmond Cherry, by J. L. Budd; Iowa Hedge Growing Apples, E. H. Calkins; Insects, D. Kriddelbaugh; Forest Trees, by Suel Foster; List of Fruits for General Cultivation; Revision of Apple List; The Effect of Soils upon Fruit Trees, by R. P. Speer; Landscape Gardening for Farmers, by D. W. Adams. The officers are: President, James Matthews, Knoxville, Iowa; Vice-President, Suel Foster, Muscatine, Iowa; Secretary, D. W. Adams, Wankon, Iowa; Treasurer, David Leonard, Burlington, Iowa.

The Ohio State Horticultural Society's Report, 1870,

Contains 78 pages, with Reports of the Summer Meeting of the Society at Berlin and Vermillion; Fruits at the Ohio State Fair in Springfield; Annual Meeting of the Society at Urbana. Among incidental topics of interest is a paper on "Experiments in Clovering Vineyards," by Chas. B. Summers, of Vermillion; "Aesthetic Horticulture," by F. R. Elliott; "The Farmer's Garden," "The Vine and its Culture," by G. W. Campbell; "Ornamental Shrubs;" "Value of Fruit Products of Ohio." The officers are: President, Dr. J. A. Warder, Cincinnati, O.; Vice-President, G. W. Campbell, Delaware, O.; Secretary, M. B. Batcham, Painesville, O.; Treasurer, Dr. J. W. Dunham, Collamer, O.

Wisconsin State Horticultural Society's Report, 1870 and 1871.

We are glad to find so creditable a volume, full of interesting subjects, bearing evidence of enterprise on the part of Secretary, officers and essayists, who have contributed to the interest of the meetings. Besides reports of Sessions of the Society, there are thirty valuable papers contributed by various members, and all of good practical moment. The volume contains 200 pages. The officers are: President, J. S. Stickney, Wamoston; Vice-President, A. G. Tuttle, Baraboo; Recording Secretary, O. S. Willey, Madison; Corresponding Secretary, Geo. E. Morrow, Madison; Treasurer, George A. Mason, Madison.

Transactions Illinois State Horticultural Society, 1870,

Contains upwards of 350 pages, and very neatly bound and printed. Besides reports of Committees and addresses of the President, there is a large fund of valuable information elicited from the discussions. The system of classification of the State into districts is a very convenient one, the value of which becomes apparent, particularly when the reports are received from the designated correspondents. In this volume all these reports are of great interest, usually free from dry, tedious details. We observe also a good tendency to throw in gratuitous suggestions as to culture, propagation, etc. Among the papers worthy of special notice, is that of D. B. Wier, on "The Vine;" Robert Douglass, on "Evergreens for the Prairies;" O. B. Galusha, on "Pears;" Arthur Bryant, Sr., on "Forest Trees;" "Birds Beneficial and Injurious to Horticulture," by Dr. J. W. Velie; A. M. Brown, on "Packing Fruit for Market;" Jonathan Periam, on "Economic Gardening;" Jno. Tunnell, "Osage Hedges;" and various others, on Small Fruits. The entire volume is replete with useful and interesting information, and will be found very cheap at the price of membership, only a dollar. Officers for 1871: President, Arthur Bryant, Sr., Princeton, Illinois; Secretary, O. B. Galusha, Morris, Illinois; Treasurer, Jonathan Higgins, Woodburn, Illinois.

Radclyffe's New Catalogue of Bulbs.

The new Autumn Catalogue of Dick Radclyffe & Co., 129 High Holborn, W.C., London, England, contains 68 pages of closely printed and richly illustrated horticultural matter. It is one of the most useful of all the foreign catalogues we have yet seen, and is embellished with many ornamental designs for household floral decorations. The American trade will be interested in it.

Riverside, in 1871,

Is a descriptive pamphlet of 60 pages, freely illustrated with engravings, and containing literary matter respecting the progress of the Riverside Park, near Chicago, Illinois. In one of the numbers of *THE HORTICULTURIST*, for 1870, we gave several illustrations of prominent buildings in this rapidly-growing suburb of the "Garden City," and stated that we believed it to be the most successful and best laid-out private park in the country. The pamphlet will inform everyone how it has been so successfully managed. Published by L. W. Murray, Chicago, Ill.

New Catalogues.

Among the newer Catalogues of special excellence is that of Hoopes Bros., and Thomas, of Westchester, Pa., and containing a very fine illustrated description of ornamental trees and shrubs, very neatly printed, and valuable for reference. George Baker, of Toledo, O., also issues an illustrated catalogue of 60 pages, containing 16 full page engravings.

Nursery Agencies.

Of all that were started several years since, we believe only two now remain with permanent business, viz.: Wood & Hall, Geneva, N. Y.; Geo. T. Fish, Rochester, N. Y. Both of these are enterprising business men, and conduct their business in an honorable manner, and, we think, have thus far proved satisfactory in every respect to the public. We are glad to have the poor *weeded out*, and the good well patronized.



Editorial Notices.

Reduction of Terms.

We renew our offer of three months on trial, for 30 cents, to any address; cannot our readers induce their friends to try it? Surely there are a goodly number that will be entertained with it at this low price. To all new subscribers for 1872, the balance of this year is given free.

Hereafter our subscription will be but \$2 per annum to all remitting us strictly in advance, i. e., within 30 days of the commencement of each subscriber's year. After that date, they remain as before, viz., \$2.50. This offer of a reduction by us of 50 cents, or 20 per cent., is really equivalent to a premium to our subscribers for prompt remittances and renewals. \$2 is a good, even price, and no one can hesitate to give it for a good, first-class magazine of worthy character.

Notice, also, that our Club Terms are reduced; two copies, only \$1.75 each; three copies, only \$1.67 each; five copies, only \$1.50 each; ten copies, only \$1 each. Are not these terms cheap? Now, bring in the clubs, strong and fast.

Premium.

To any subscriber, old or new, enclosing his subscription of \$2, between now and February 1st, and desiring Premium Package of Flower Seeds of the Diadem Pink, the same will be given free on receipt of postage stamp.

New Books.

Attention is called to the advertisements of new books, especially *Forest Trees*, by Arthur Bryant sen., and "Daisy Eyebright's" book, *Every Woman her own Flower Gardener*. Published at office of *THE HORTICULTURIST*. Our Illustrated Catalogue of Rural Books, now ready, is the handsomest and most complete ever published. Send 5c. stamp for it.

Club List of 100 Papers.

This Subscription Agency will be found very convenient and economical for everyone who takes two or more papers. See advertisement.



Interior of Fernery.



THE
Horticulturist
EDITED BY
HENRY T. WILLIAMS.

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NO. 306.

The Flowers of the Prairies and Mountains.

Editorial Notes of an Excursion to Colorado.

A WORD ought to be said as to the brilliancy of the flowers of the prairies and mountains. While riding on the far Western plains of Kansas, from Salina to Denver, our attention was called to a little shrubby plant, about eighteen inches to two feet high, with symmetrically arranged branches, and entirely covered over with a mass of white flowers, slightly striped with green in the center. They dotted the plains here and there at distances of fifty to one hundred feet apart, and often were seen in rows along the edge of the excavation for the railroad embankment. The sweet little things looked so pure and bright in their profuse bloom that we never wearied looking at them, and our expressions of delight became more and more enthusiastic. It proved to be the *Euphorbia*, and for hundreds of miles it never disappears from sight, seeming providentially to be placed there to adorn an otherwise naked and uninteresting prairie. This flower seems frequent in southern latitudes, for we never noticed it in the more northern latitude of Nebraska, and when we began to ascend the Rocky Mountains, it disappeared entirely. Its home is evidently in a moderately warm region, and the milder the climate the greater the luxuriance of blossom. Its star-shaped flowers are always a blessed sight to the traveler.

After we had ascended into the mountains beyond Denver, we were at an altitude of 8,000 to 9,000 feet; riding along the beautiful grassy parks, studded with pines and spruces, we came to a still greater variety of flowers and rare plants, which afforded an interesting study for our botanists.

One lovely flower seemed pre-eminent—the *Indian Pink*. It grows to the height of about six inches above the ground, has a small stem surmounted with a cup of about one and a-half inches in diameter (when full blown), and of the most dazzling scarlet or crimson. Usually the tallest stem is surrounded by two or three other

shorter ones, which cluster closely together, and form a bouquet. I rarely saw a plant entirely alone ; there was sure to be one or more smaller attendant blossoms. This plant is said to be a parasite, its roots living upon the roots of some other plant beneath the surface of the ground, hence difficult of transplanting, or else we would have made the effort to bring it back with us. There are often other shades of color —white, cherry, cream, and deep red—six colors in all we observed ; and in many parts the profusion of the little beauties over the plains was simply astonishing, often as near as five or six feet apart for miles in every direction. From their distinctive beauty of color and shape of blossom, which is not unlike a half-opened tulip, it is in common parlance called the *Painted Cup*. No plant of our travels, or seen in the mountains was so gorgeous in color and so delightful to the eye as this brilliant little bloomer.

In crossing the South Park one day from Hamilton to Fair Play, we came accidentally upon three or four beds, about twenty feet in diameter, closely carpeted with the *Eriogonum*. These little plants hugged close to the ground, but turned their sweet white, yellow, and red blossoms upward to the air, and formed a prairie flower-garden of beauty seldom seen. The flowers are about two and a-half inches in diameter, and were as thick as the blossoms usually seen in a bed of *Portulaca*. It is hardly necessary to say that the entire cavalcade of teams of the excursionists halted and scrambled for the prizes ; and the ladies were in ecstacies over the welcome sight. Among other flowers noticed frequently along the road were :

The *Gilia*, a plant with long, narrow stem and sub-branches, and tipped with lily-like cups at the sides. The shades of color were of every description, from white to scarlet ; but the latter was most frequent. The flowers were quite small, hardly over an inch and a-quarter long, and the cup opened only about three-eighths of an inch at the ends.

The *Rocky Mountain Thistle* is a very large branching shrub, ornamented at the tops of the branches with very large white flowers, about six inches in diameter. These are common at a little lower altitude, where they can enjoy a little more warmth.

The *Golden Rod*, with its deep yellow seed-pods at top, is quite common in every part, and particularly in the interior of the South Park.

The *Pentstemons*, with their blue or mauve colors, are seen along the valleys or on the sides of the mountains.

The *Blazing Star*, with its straight stem, of a deep purple color, was seen in some parts of the prairie, but not often. I noticed it most frequently about 30 miles south of Denver.

As we were descending from the South Park toward Colorado Springs, we met in one of the moist valleys an abundance of *Lupins*, a short shrub two feet high, with stout branches, light purple flowers, and racemes about three inches long. There were often large patches of it growing wild, which gave a delicate tone to an otherwise flowerless sward.

The *Geranium*, or Crane's Bill, a miniature bush, with a profusion of single light

pink flowers at the top and sides, was often seen both in the mountains and on the plains of the eastern slope.

We clambered up to the very top of Pike's Peak, and there, nestling in close to the huge boulders near the summit we found a strip of tender grass, a little stream trickling its tiny drops down and saturating the sod, and over all grew two plants of the *Gentian*, with its deep green leaf and pink blossoms. Truly wonderful, we thought, that a flower thus lovely should grow so far upward in this cold atmosphere, for it was 14,000 feet high.

On descending the divide between Colorado Springs and Denver, we came upon a plain studded over with lovely *Prairie Roses*, ornamented with their beautiful pink and white flowers. They had doubtless been more luxuriant, for it was nearly beyond the season, but a few of the latest flowers still hung expanded, seeming to show what lovely objects the shrubs might be when the blossoms were in full prime. After a while the *Prairie Roses* disappeared, and then came a mile-square patch of the *Rocky Mountain Creeping Convolvulus*, a sort of *Ipomoea*, of a thick shrubby character, drooping over on the ground, its branches forming a head about two feet in diameter, tipped with large white and red blossoms. It seems to prefer a sandy soil, quite warm, where even grass grows with difficulty.

Even the most casual observer, unfamiliar with botanical descriptions or names, will be delighted with the rich flowers of the mountains. Our trip was taken in the month of August, when many of the spring flowers had disappeared; yet every month has its own series of flowers, and from spring to fall there is always something in bloom. But in June and July by far the largest number can be found, for then the spring flowers are most abundant.

At Denver, and also at Greeley, I noticed in the gardens of amateurs how incomparably brilliant was the bloom of even our ordinary garden flowers. The colors of every variety appear to be intensified, and every petal a marvel. In one garden there were petunias and phlox, the bushes of which were so large and the color so vivid, I could hardly recognize them as some of my Eastern favorites. Marigolds form little miniature hills of yellow flowers, almost perfect in their regular form.

Double zinnias were even as large and fine as ordinary dahlias, and a pyramid of ornamental gourds had covered a trellis so densely in one season, that I surely thought it must have been made, not grown. The soil has a tendency to produce flowers and seeds in perfection, rather than foliage and stalks. This is explained by the fact that the soil is full of mineral matter, and irrigation only develops the grains or blossoms, while it does not excessively stimulate the foliage or stalks. John Seavey, a florist from New York State, has a little flower garden at Greeley, one hundred feet square, containing little beds of brilliant dahlias, zinnias, gladiolus, blotched petunias, and even canna in bloom, with finely colored leaves. The irrigating ditch runs along in front of his place, and immediately over the trough he has erected several floral vases and stands, which contain specimens of all his plants. So pretty a floral garden, right under the shadow of the grim peaks of the mountains, affords a contrast of a remarkable nature, only too truly realizing the truth of the remark, "that man in his wildest nature, or in the wildest regions, is still a lover of flowers;

and the greater the contrast of condition, the greater the love for such simple beauties."

I ought to notice with admiration the exceeding fondness of all the Western people for flowers. Sometimes when traveling among the wildest and most rude portions of the Rocky Mountains, I often came upon a ranche with its rough log-cabin, where I had least reason to expect anything but rough, coarse furniture or the rudest style of living. Yet I almost always saw some flowers in the windows, or a little bit of flower garden below, and some clustering plant clambering up along the window pane. The old fruit-cans, which have been emptied by travelers and thrown away, have often been picked up by the women of these cabins, filled with earth, sowed with seeds, and now were blooming little flower-pots, full of balsam or other simple flowers; while in one case a larger can had been converted into a hanging-basket, and it hung suspended before our gaze, full of the brilliant cups of the *Portulacca*. I often noticed strawberry vines growing in the gardens of these mountain ranches, and probably not one out of five cabins failed to have some flowers around the door.

In Greeley every yard has its share of flowers, and some one inside is sure to decorate the window-sash with pots or hanging-baskets, full of green things. Everywhere in Kansas this taste for flowers is universal. Many have brilliantly beautiful flower gardens, of quite large extent; and wherever such taste exists we may all know that there is culture and refinement, even among the rudest surroundings.

GREELEY.

Greeley will yet be a success, I believe, although I am afraid too many are too poor to be able to hang on. The climate is more windy and uncongenial in winter than most are willing to admit, yet grain raising is a success, and I see nothing to prevent successful irrigation. The location is well chosen, the best, in fact, in Northern Colorado, and they have the advantage of good fuel close at hand at reasonable prices. Denver is too near to prevent it from attaining any commercial importance, and it must remain, as it should be, dependent entirely upon the success of agricultural pursuits. There have been a number of mistakes made, such as beginners and inexperienced persons would naturally make, especially in wrong irrigation, but experience is a good teacher, and the citizens are rapidly learning to use their facilities rightly. Another year will place this settlement in a much more favorable light than at any time in the past. Gardening has been the principal occupation since the foundation of the colony. Nearly all the five-acre village farms have been devoted to garden vegetables; and, with uniform success, everything but corn grows there, and fruits nicely. Melons, cabbages, potatoes, and all of like character for kitchen use are sufficiently tested beyond a doubt of their success. Wherever there has been a system of well-laid ditches for irrigating purposes there has been no failure. Strawberry plants, where well watered, have done well. In several nurseries we saw a most gratifying growth of apple trees, both from the graft and also plants two years old.

Mr. Cooper, formerly of the *Tribune* office, New York, who is now town clerk of the place, said to us that he had seen in Denver, raised on soil not so well watered,

54 potatoes weighing $59\frac{1}{2}$ pounds, turnips 22 pounds apiece, cabbages weighing 60 pounds, and barley reproducing 110 pounds from one pound of seed. The average produce of potatoes is 400 to 500 bushels per acre, and wheat 30 to 40 bushels. Of raspberries, the Doolittle is best. Fruit trees had undergone different experiences with various individuals. With one man they had proved a total loss; while another had lost nothing. The winds there are so cold and dry in winter and early spring that they often prove a serious injury unless the trees are protected. Where they had been protected against the rays of the sun from the south they had uniformly been saved. At Denver, the Catawba grape is uninjured, and even some of the foreign varieties have been successfully grown in the open air. One cultivator in Greeley has great faith in grapes, and has planted 2,000 vines—1,000 Concord, 500 Eumelan, and 500 Salem. The selection is very good. Although there is much uncertainty about standard fruits, yet there is no question that all garden vegetables and grains, except corn, are perfectly adapted to the climate. Wheat is admirable in production, averaging 30 to 40 bushels per acre. The soil is rotten granite, washed from the mountains, full of potash and mineral matters, and when irrigated will yield the most astonishing crops.

H. T. W.

Design for Cottage.

THE design for farm cottage, illustrated in frontispiece for Nov., is made entirely of brick, with slated roof, and built on somewhat inclined ground, so that the cellar in the rear is mostly out of ground.

The foundation and cellar walls are of stone, laid in mortar, and are twenty inches thick. They extend no higher than the grade line, so that the rear cellar wall is mostly of brick, 12 inches thick. The cellar extends under the whole house, is eight feet high in the clear, and the bottom is cemented. Having a northern exposure, it offers conveniences for dairy purposes, and is principally used as such.

Above the basement, the walls are of brick, 16 feet high, being 12 inches thick in the principal story, and eight inches thick above that. A verandah extends along a portion of the front of the house, and from it opens the front door.

The hall is seven feet wide, and contains the staircase to the cellar and the chambers. On the right of the hall is the parlor, 14 by 17 feet, having a bay-window projecting from it, and behind the parlor is a bedroom, entered from the hall; this bedroom is 14 feet square. On the left of the hall is the kitchen, 14 by 16 feet, with a pantry opening out of it on the left and a scullery on the right, besides two closets. The pantry is fitted up with shelves and drawers, the closets with shelves, and the scullery has a pump and sink. This story is nine feet in the clear. The second story has three bedrooms, of the same dimensions as the rooms below. They all have a five-foot breast, and are $8\frac{1}{2}$ feet high in the center of the room. The timber used in this cottage is hemlock; the floor beams are 3 by 8 inches, 16 inches apart, and cross bridged; the rafters are covered with hemlock boards, and the floors are laid with pine floor-plank, except in the kitchen and pantry, where hard pine has

been used. The windows are all mullioned windows, having eight lights to each sash, hung with cord and weights in the usual manner.

The doors are all four-paneled, inch and a-quarter thick, with mouldings on the exposed side.

The inside trimmings are plain throughout, the bases being 6 inches high, beveled, and the architraves $4\frac{1}{2}$ inches wide, the windows having stools and apron.

The walls are furred off with inch furrings, and lathed and plastered, and hard finished throughout. There are no cornices and no stucco-work, except a bead around the arch of the bay-window. The scullery and pantry are of wood, being, like the verandah, enclosed.

The inside wood-work is stained with umber, and the outside is painted and sanded. Cost, near New York, about \$3,500. A similar design in wood could be built in the country for \$2,500. Possibly either for a less price, if labor and materials are cheap.

Hybrid Fruits, Etc.

IN the August number, *HORTICULTURIST*, Jacob Moore, of Rochester, N. Y., in an article on Hybrid Fruits, asserts that, "even allowing that they (he is speaking of the apple and the pear) can be crossed, * * * this would affect neither the color, shape, texture, or flavor of the fruit in the slightest perceptible degree. Experience renders me positive on this point. I have crossed native grapes with * * * the finest foreign grapes, and have never been able to detect the slightest approach to the foreign varieties used, either in the shape, color, flavor, or texture of the fruit, or the formation of the seed. * * * Such is my experience, also, with crosses between varieties and species of the apple, pear, and other fruits."

Again, further on, he says: "Corn, as is well known, is fertilized by the pollen dropping from the tassel upon the silk, descending through it to the point of the seed in the cob, and there entering into the composition of the germ of the seed, popularly termed the chit. A cross or mixture of the two varieties is effected, simply, by the pollen of one variety acting upon the seed of the other, precisely as its own pollen does. It is a mistake to suppose that the pollen of the one changes the main body of the seed of the other into that of the variety to which the pollen belongs, or into something appearing to be a medium or cross between the two sorts. Such an effect is impossible, according to my judgment and experience. * * * The popular belief, also, respecting the mixture of different kinds of vegetables is erroneous."

The several positions here taken by Mr. Moore, amount, in the aggregate, to this; that neither fruits, grains, nor vegetables, can exhibit any of the effects of hybridization the same season in which they are cross-fertilized; or, in other words, that no fruit, grain, or vegetable, is ever varied in its shape, color, flavor, or texture, by being grown in juxtaposition with other fruits, grains, or vegetables, or other varieties of the same fruit, grain, or vegetable.

In contravention of this doctrine, allow me to present, without comment, three items of my own experience:

First.—Some fifteen years ago, I set a scion of the Beurré Bosc pear in a bearing tree of White Doyenné. The first product of that graft—an only specimen—was shaped and colored like a White Doyenné, and not at all like a Beurré Bosc; neither would any one have suspected from its texture, or flavor, that it belonged to the latter variety. So striking was the phenomenon, that I saved and planted the seed of the specimen, from which I have a graft, not yet in bearing.

Second.—Three years ago a friend of mine presented me with an ear of black sweet corn. I planted it beside Stowell's Evergreen. On picking the corn for use, I found many black kernels in the Evergreen ears, but not an ear of what should have been the Black contained a moiety of kernels of that color, while more or less of the ears were wholly white, or very nearly so. It was certainly the first opportunity the Evergreen had had of going in for amalgamation with its colored kin, on my soil; for I had planted it by itself for a number of years, and kept it in great purity. I have had the Early Red corn and the White Pop corn mix in the same way.

Third.—Some twenty or more years ago (I cannot now lay my hand on the dates), I planted a parcel of ground indiscriminately with Jackson and Mercer potatoes. In digging the crop I was surprised to find, in a single hill, a handful of tubers entirely different from either of the sorts planted, and from all other varieties with which I was acquainted. The circumstance appeared to me so singular that I carefully saved the specimens, and planted them the following spring. Finding at harvest that they were a fixed fact, and not a mere abortive sport, I furnished an account of their origin to two or three of the papers of that day, the *Albany Cultivator* being one of them. I named it the Graylock potato. It was very smooth, kidney form, grayish purple in color, and of the very finest texture and flavor. Luther Tucker, then editor of the *Cultivator*, pronounced it the finest potato he had seen, and ordered seed of it by the barrel for his own use. No one questioned its being a new and distinct variety. I cultivated it several years for my own table, until I was obliged to relinquish it on account of its deteriorated yield.

The modus operandi in these cases has appeared to me so obviously beyond my depth, that I have made no attempt to fathom it. It may prove an interesting subject for the curious, and with them I leave it.

ASAHEL FOOTE.

Williamstown, Mass.

Interior of a Fernery.

THE illustration contained in our frontispiece, is a sketch of the fern house of Veitch and Sons, at Chelsea, England. Its roof is low, and walls are built of good thickness, to serve as supports for rockeries. Within this space are gathered a large variety of ferns, both of large and small growth, and here and there are niches or slopes for the mosses. The central plant, with the immense feathery leaves sweeping downward to the ground, is the Woodwardia radicans, one of the most splendid of all ferns. This is a cool greenhouse, that is, the temperature ranges from 40° to 50°, and the plants most suitable for such a temperature are, Adiantum, Asplenium, Athyrium, Gymnogramma, Polypodium, Polystichum, Pteris, Scolopendriums, Woodwardia. Probably no such fern house as this exists in the United States, unless it is provided for in the new conservatories of the Department of Agriculture, Washington, D. C.

Pencil Marks by the Way.

BY OCCIDENTALIS.

Two of the Humbugs.

I KNOW it will not do to call everything a humbug that happens to fail on our own grounds. To do so, would be to discard perhaps three-fourths of the varieties of fruits known to horticulture.

But when anything is proven to be valueless everywhere—or even in a majority of cases—I think it may very properly be classed as a humbug. Among these I undertake to name the *Crystal White Blackberry*. With an over-zealous disposition to test things, I procured some of them about four years since. Annually, until this year, I have been anxiously awaiting in vain for its crystal white berries, but it winter-killed to the ground each season. The past winter, however, it carried through a fine growth of wood, and I have been rewarded with a prolific yield of fruit.

But, O, such berries! Not so large as a majority of the wild blackberries of the woods; and as to color, they are not *black*, they are not *white*, they are not *red*. Instead, they are a shiny *brown*. How any one could have conceived the idea of naming them *Crystal White*, passeth my comprehension. The color, however, may do, but the quality is simply execrable. Quinine may be taken as a medicine; but few people can be found, I reckon, who will relish it as a dessert. This fruit very strongly resembles it in taste, and is in every sense a vile thing—fit only to take a place in the *Materia Medica* as *an ague cure*.

How any person who had ever tasted the fruit, could desire to introduce it as an acquisition, or how any nurseryman could, after a trial of its quality, be induced to place it in his catalogue and send it out, is one of the mysteries of horticulture. I write this without knowing to whom the public is *indebted* for its introduction; only remembering that many most respectable and reliable nurserymen have it on their catalogues.

In the same list I would place the *Van Buren Golden Dwarf Peach*. For several years it has persistently refused to bear a peach or show a blossom. It has been winter-protected, and left exposed, always with the same results. Other peaches, named and seedlings, hardy and tender, have borne abundant crops around it; so that it may be set down as a total failure. It may perhaps answer well enough for the latitude of Georgia, where it originated; but he who plants it in the Northern or Western states, will look for crops in vain.

Bandaging Apple Trees,

As a means of trapping the larvæ of the Codling Moth, has not received that attention, I fear, the subject deserves. That bandages of straw, or hay (cloth is much better), do serve as a retreat for these insects, any one may have ocular demonstration on trial. During July, I placed hay bandages—for want of a better material—around the stems of most of my bearing trees; and now, the 25th of September, I find beneath them numbers of these larvæ, securely hidden away, and many of them

imbedded in the bark of the tree beneath the band. The bands should be searched several times during the season, and all found destroyed.

Professor Riley, the Missouri Entomologist, attaches great importance to this remedy, and recommends that some manufacturer should engage in the production of cheap coarse bands for the purpose.

Iron for Pear Blight.

It has been suggested that an application of iron to the soil, is the true specific for the blight; that in soils where iron exists to a considerable degree, the disease is not known. How is this? I am inclined to the opinion, that there is force in the suggestion, and that the application of iron will be found at least beneficial.

Bank of the Mississippi, Sept., 1871.

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The Mount Vernon Pear.

RIPE specimens of this new fruit have been received by us from Rochester, N. Y. The fruit is of medium to large size, obtuse pyriform shape, with rich russet surface, slightly tinged with red. Upon cutting the fruit, the juice is found as free and abundant as in the Bartlett; grain is fine, about like that of the Beurre d'Anjou, and quality very spicy and aromatic; perhaps the word superb will partly help out our expression of its delicious flavor. We have long wanted a first class winter pear for profitable market cultivation, and nothing had as yet seemed to fill exactly the need, until we observed the announcement of the Mount Vernon. Its growth upon a small graft in the garden of a friend near Dover, Del., was most luxuriant, even surpassing the vigor of the Vicar of Winkfield or Bartlett, and for two seasons, it has seemed to become more and more firmly fixed in our favorable estimation. The fruit now comes to hand, and our expectations are more than confirmed, and the flavor is better than we supposed was possible. It fills the gap completely, and the Mount Vernon we now crown king of the winter pears. We consider it superior in quality to the Lawrence or Beurre d'Anjou. In vigor of growth we know of no pear grown that can equal it; the only point we yet lack positive information on, is its productiveness and uniform bearing. This variety now helps to complete the list of desirable sorts of pears for successive ripening. First, for early autumn, comes the Bartlett; for medium autumn, the Seckel; for late autumn, the Beurre d'Anjou; for early winter, the Lawrence; for late winter, the Mount Vernon; add to these five standards, the unapproachable dwarf variety, the Duchesse d'Angoulême, and we have a list of unspeakable value, every tree of which is healthy, hardy, productive, and can be grown successfully in every portion of the United States.

The Mount Vernon has very rare qualifications. It ripens at a time when pears are few and prices high; it is an excellent keeper; it is of good size; has a handsome color, the best of all winter pears, in this respect, we have ever seen, and can safely be classed as a market variety, quite as profitable as the Bartlett, and as acceptable as the Lawrence.

Culture and Pruning of Pear Trees.

IN some of the late numbers of the *Horticulturist*, an extract is quoted to the effect that I have recently changed my views with regard to pruning pear trees. Let me answer these assertions by giving the following extracts from the last article that I prepared on this subject, merely stating that it expresses the views that I have held, and frequently expressed for at least a dozen years past:

Culture.

The best mode of treating the soil in pear orchards is an important question, both in regard to the health of the tree and the production of fruit. Laying aside all special circumstances, it appears evident that the condition of the plants will indicate the treatment required; the object being to maintain health and encourage fruitfulness. The measure of successful accomplishment of these conditions will greatly depend upon the knowledge of the principles governing vegetable growth possessed by the cultivator. When the trees are young the chief object is to encourage judicious growth by employing expedients known to favor vegetable extension, such as the application of manures, breaking up and pulverizing the soil, surface stirring, and other similar operations. By *judicious* growth is meant a luxuriance not incompatible with maturity, and as this will depend upon climate and locality, it is evident that a discriminating knowledge of cause and effect will largely influence success.

In northern latitudes where the season of growth is confined to five months' duration, it will be impossible to mature the same amount of wood that can be produced on trees in a locality having seven months of growing season. In the latter case stimulating appliances may be used with the best effects that would only tend to dissolution in the climate of short summers. The great desideratum in fruit culture is ripened wood; all useful cultivation begins and ends with this single object in view, and is the criterion of good or bad management.

To cultivate, or not to cultivate, is a question to be determined by climate and condition of soil. Where it is deemed advisable to encourage growth, it will be proper to employ such appliances of culture as are known to produce that result; and again, when ample luxuriance is secured, and the tendency is still in that direction, all surface culture should be abandoned, and the orchard be laid down in grass; cultivation to be again practiced when the trees indicate its necessity.

Pruning.

The pear tree is usually a victim of excessive pruning. It is pruned in winter to make it grow, and pruned and pinched in summer to make it fruit. Why it is that the pear, more than other spur-bearing fruit trees should be supposed to require so close and continued pruning, does not appear of easy explanation. It is evident that this immoderate pruning is not followed by satisfactory results, for while apple, plum and cherry trees fruit with abundant regularity, with but little attention to pruning, unfruitfulness in the pear is a frequent cause of complaint, especially with those who pay the strictest attention to pruning rules, showing clearly that successful pear culture is not dependent upon pruning alone. While it is perhaps equally erroneous to assert that pear trees should not be pruned at all—an extreme which no

experienced cultivator will indorse—it is worthy of inquiry, whether unpruned trees do not exhibit a better fruit-bearing record than those which have been subject to the highest pruning codes. How far the proverbial liability of the pear to suffer from blight, may be due to the interference and disarrangement of growths caused by summer pruning, it may not be possible to decide; but the tendency to late fall growths, and the consequent immaturity of wood which is thereby encouraged, is well known to be of much injury, and greatly conducive to disease. Perhaps no advice that has been given is so fruitful a cause of failure and disappointment in fruit culture, as that embodied in the brief sentence, "Prune in summer for fruit."

The physiological principle upon which this advice is based, is that which recognizes barrenness in fruit trees as the result of an undue amount of wood growth; and that, in accordance with acknowledged laws, any process that will secure a reduction of growth will induce fruitfulness. The removal of foliage from a tree in active growth will weaken its vitality, by causing a corresponding check to the extension of roots, but the removal of the mere points of strong shoots has no palpable effect in checking root growth; the roots proceed to grow, and the sap seeks outlets in other channels, forming new shoots, which in no way increase the fruitfulness of the plant.

While it may be confidently stated that, as a practical rule, easily followed, and of general application, summer pruning for fruit cannot be recommended except as an expedient rarely successful; it is also true that there are certain periods in the growth of a plant when the removal of a portion of the shoots would tend to increase the development of the remaining buds, without causing them to form shoots. For example, if the growing shoots of a pear tree are shortened or pruned by removing one-third of their length, say, toward the end of June, the check will immediately cause the remaining buds on these shoots to push into growth and produce a mass of twigs as far removed as may be from being fruit producing branches. Again, if this pruning is delayed until August, and the season afterwards proves to be warm and dry, the probabilities are that the remaining buds will develop into short spur-like shoots, from which blossom buds may, in course of time, be formed; but if the season proves to be wet, and mild growing weather extends late into the fall, these same shoots will be lengthened into weakly, slender growths, which never mature, and are of no use whatever. There is no certainty as to the proper time to summer prune, because no two seasons are precisely alike, and trees vary in their vigor from year to year; and yet this uncertain, indefinite, and constantly experimental procedure is the basis upon which the advice to "prune in summer for fruit," is founded.

The pear tree, in fact, requires very little pruning, and that only so far as may be necessary to regulate branches in either of two exigencies. In the first place, when the young tree is placed in its permanent position in the orchard, its roots will be greatly disturbed, and many of them destroyed; it will, therefore, be expedient in this exigency to abridge the branches, so as to restore the balance of growth that existed between the roots and branches previous to removal.

This pruning at transplanting has its opponents on the theoretical grounds that, as the formation of roots is dependent upon the action of leaves, it must follow that the more branches and leaves left upon a plant, the more rapidly will new roots be pro-

duced; but there is one important element overlooked in this reasoning, namely, the loss of sap by evaporation, which speedily exhausts the plant, while it has no active roots to meet the demand. The proper practice is to reduce the branches so as to give the roots the preponderance, and many kinds of trees can only be successfully removed by cutting the stem off close to the ground.

If the tree has been pruned close back at planting, the first summer will develop the foundation for a well-balanced, symmetrical plant; but as this result depends upon a good start, it is well to keep an eye on the young growths during the first season, and if any of the shoots appear to be developing to the detriment of others equally necessary for future branches, the points of such shoots should be pinched off, but in doing so, let there be as small a removal of foliage as possible, the object being not to weaken, but merely to equalize growth. As a general rule, no advantage will be gained by pruning any portion of the shoots after the first season, unless in the case of weakly trees, which will be strengthened by pruning down during winter. The removal of branches during summer weakens growth, but when a portion of the branches are removed after growth is completed, the roots, not having been disturbed, will have the balance of power, and the number of buds being diminished, those that are left will receive increased vigor.

It should never be forgotten that there is nothing more certain than that by shortening-in, or pruning back the ends of shoots, either in summer or winter, the fruit-producing period is retarded, and the fruit-producing capabilities of the trees abridged. Fruiting spurs will not form where the growths are constantly interrupted and excited by pruning; but, after the third or fourth year, young shoots will, in the majority of varieties, become covered with fruiting spurs the second year after their formation, if left to their natural mode and condition of growth. Of course this refers to trees in soils of moderate fertility, grown in a climate favorable to the plant.

The only pruning, then, that is really essential, after the plant has become established, will be confined to thinning out crowded branches, and this forms the second exigency for pruning. If low-headed trees are preferred, those branches that have become destitute of fruiting spurs near the body of the tree may be cut out, and a young shoot be allowed to take the place of the one removed. There will be no lack of young shoots for this purpose, as they will be produced from the base of the cut branch, selecting the strongest and best placed to occupy the vacancy, if such occupancy is desired. This mode of cutting back branches will be more particularly essential in the case of dwarf pear trees, as the quince roots are unable to support a tall, heavy-headed tree, but in all other respects dwarf pears should be treated the same as standards.

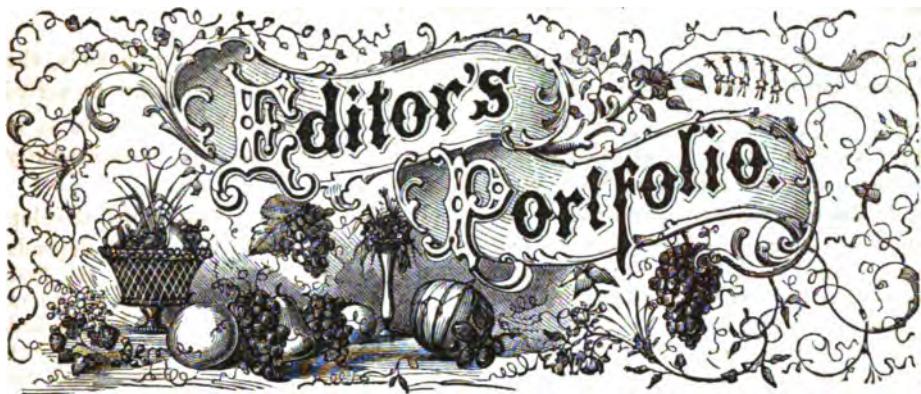
It may be instructive to briefly recite the history of a small dwarf pear orchard, numbering about 130 trees, and consisting of as many varieties.

These were planted during the spring of 1865, being good two-year old trees; the leading shoots were pruned down to a uniform height of 30 inches, and the side shoots cut back to two buds. No further pruning was deemed necessary until the winter of 1870, when some of the tallest center branches were removed, and others thinned out by complete removal. In the spring of 1867, the entire surface of the orchard was sown with our ordinary lawn grasses—blue grass and red top—and remains in sod up to the present time.

For three years past these trees have produced heavy crops; the fruit was thinned, but not sufficiently, although thirty bushels were removed at one thinning in July. Samples of fruit from these trees were exhibited at the Pomological meeting held at Richmond last month. They happened to be placed alongside a collection from California, and in every case where the same varieties occurred in the two collections, the Washington fruit was equal in size and beauty to that from the Pacific coast.

Washington, Oct., 1871.

WILLIAM SAUNDERS.



Editorial Notes.

Profits of Gardening in New Jersey.

At a meeting of the farmers near Woodbury, N. J., a short distance from Philadelphia, where the entire farm industry is raising market vegetables, valuable facts were elicited respecting the profits of garden crops.

D. C. Andrews stated, that with him early potatoes followed by cabbage, were crops from which he realized the most money. He had taken from three acres, \$250 per acre for potatoes, and \$150 for citrons. For the potatoes he used about \$60 worth of manure to the acre. Sales of potatoes almost always averaged over \$100 per acre.

Clement Whitall gave the following copy of his own receipts from garden crops :

Citrons, net profit.....	\$115 48	per acre.
Early potatoes, net profit.....	41 24	"
Wheat, net profit.....	29 65	"
Tomatoes, net profit	81 16	"
Sweet potatoes, net profit.....	35 61	"
Asparagus, net profit.....	124 42	"
Cabbage, net profit.....	45 00	"
Beans, loss of.....	13 54	"
Pears, loss of.....	6 21	"

They paid only one year out of five.

Cooper Cloud had received as high as \$500 per acre from early tomatoes, \$100 to \$150 per acre for citrons. The Boston squash was also considered a good crop, and met with a ready sale. One year the net profits were \$200 per acre.

But it was evident that prices were very fluctuating, and the average net profits, year after year, did not exceed \$50 to \$100 per acre. Those who had grown stock, had done best. Every cow was worth \$100 per year to its proprietor, and on a farm of fifty acres, twenty-five cows soiled would give a much larger income than if the land had been devoted to truck.

How to Start a Nursery.

W. F. Heikes of Dayton, O., has published a practical little treatise of twelve pages, with the above title. It appears to be very suitable to any one intending to enter into this business, dealing practically with such subjects as soils, modes of propagating, distances apart for planting, root grafts, cultivation, management of seeds, transplanting, budding. It is the only publication of the kind we have seen in a cheap form. Price 25 cents. The value of it is enhanced considerably with a list of trees suited to different latitudes, from 37° to north of 40°.

Gardening for Women.

The *Country Gentleman* gives an instance of a young lady who cultivated one-half an acre of land, both for the sake of health and a little profit. The labor was light, and the physical exercise gave greater zest to indoor enjoyments. At the end of the season the account stood as follows:

Expenses of rent, seed, labor, etc.....	\$34 63
Returns—200 lbs. sage, 40c	\$80 00
160 bu. carrots, 30c	49 60
Radishes.....	6 85
3½ lbs. saffron, 90c—1½ lbs. \$1	4 65
Grapes (old vine, pruned and improved).....	3 00
	144 10
Net.....	\$109 47

Raspberries and Strawberries.

For the earliest black-cap raspberry, take Davison's Thornless; medium season, Doolittle; late, Mammoth Cluster. Red varieties, Kirtland, Philadelphia and Franconia. Early Strawberries, Nicanor, Early Scarlet, Downer, French, and New Jersey Scarlet, then the Wilson; later, Kentucky, Triomphe de Gand, Peak's Emperor, Jucunda, Boyden's 30.

Concussion, the New Method of Killing Insects.

At the recent meeting of the American Pomological Society at Richmond, Va., Col. Hardee of Jacksonville, Fla., introduced a new method of killing insects—by concussion. His experiments are as follows: "I placed two pounds of powder in the hollow of a live oak stump, immediately in the vicinity where the curculios promised to destroy entirely my plums, peaches, etc. The powder was fired off one calm night, and it not only destroyed every curculio, but every winged insect in my entire orchard." Other persons have been experimenting with this plan of killing the caterpillar in the cotton field, but we have not yet heard of their success. We think there may have been some predisposing favorable cause to help Col. Hardee, but would doubt the general utility of the method. It is probably but of temporary value.

The Bloodgood Pear.

A contributor to *The Southern Horticulturist* has had this in bearing at Atlanta, Ga., for several years, and finds it "always of superior merit, a good bearer, fine size, and quality unexcelled among summer pears. It has a peculiarity. Should the blossoms all be killed by late frosts, it will in a month or six weeks, throw out another crop, which never gets killed, thus rendering it a sure annual bearer."

The editor of the same paper, remarking thereon, says: "Out of five hundred varieties in bearing near Yazoo City, Miss., there was none of its season better than Bloodgood, either as regards health of tree, productiveness or quality. It is not quite as smooth and handsome as it ought to be for a market pear, but for a home fruit, no collection should be without it. It should be grown as a standard, set out at least twenty feet apart, and trimmed high, so as to give it all the air and sunlight possible, otherwise its first crop is liable to be affected somewhat with the fungus blight. It is not a rapid grower, but makes a handsome, conical shaped head, which bears its fruit very regularly distributed all through it. It ripens about with Osbands Summer, a little earlier than Julianne and Tyson, and its average size is two and one-half inches long, and two inches wide."

Eastern Fruit in California.

At the California State Fair, held at Sacramento, Sept. 18th to 23d, there were on exhibition a considerable quantity of fruit from the Eastern States, to be tested by the side of the California fruit. The editor of *The California Horticulturist* says,

Editorial Notes.

that many of those varieties from the East showed a marked superiority in size and appearance to the same varieties grown in California. And yet in other varieties, the California fruit exhibited also a marked superiority. As far as late winter fruit is concerned, the Eastern fruit was considered preferable, because its firmness and unripe state guaranteed its fitness for long keeping. There appeared also to be a distinctiveness in characteristics of fruit from each section. More apparent in the Eastern fruit than in their own. The Eastern fruit was also noticeable for its peculiar polish or metallic lustre. The quality is not reported upon. We would like to hear further.

The Most Popular Market Apples in California Market

Are the Gravenstein and Jonathan. The former of second quality, color bright yellow with distinct red and orange stripes, and very handsome. It is good eating, sweet and of a sprightly acid, and excellent for cooking. The Jonathan is of the first quality, tender, juicy and rich, with a good deal of the Spitzenberg character. It is very fine and attractive apple, from its rich red color, with light yellow ground.

—*California Horticulturist.*

California Fruit in New York.

Mr. Reed of Yolo county, California, shipped three car loads of Bartlett pears to New York, last September, and received \$6.50 per box, or \$4,000 net for the proceeds.

Benefits of Tree Hedges.

The Prairie Farmer says that, with the planting of forest trees on the prairies, there is a notable improvement in health, less ague and rheumatism, and less catarrh. A few years ago, some leaders of the tree movement planted trees as wind-breaks to their orchards and their dwellings. In every instance these have worked wonders in giving increased fruitages, exemption from spring frosts, and unspeakable comfort to the family and cattle in the barnyard. The saving in cattle feed is found to be no small item, for every protection from adverse weather enables stock to thrive on less fodder. Among other beneficial effects of the young forest may be mentioned the opening of many permanently flowing springs, which had long ago ceased to run.

Treatment of Cherry Trees.

We remember, some years ago, a neighbor bought a hundred cherry trees, and set them out in an orchard, and began to manure and treat them in every respect as he had done his apple orchard, which was in thriving condition. In a year or two many of the trees burst their bark, turned black, and part died; this continued until three-fourths of the whole were dead, or nearly so, being quite worthless. It was evident to the farmer that he had killed the trees by his kindness, and he stopped manuring, sowed his land down to grass, and thus saved them. What would do for the apple tree would not do for the cherry. We know another orchard, now some years old, that we set out for a neighbor, where the trees have been kept in grass ever since the second year after they were set. These trees have made a good, sound, healthy growth each year, and latterly, even for ten years past, except a single year, have borne good crops of fruit. There is not a more healthy cherry orchard in the country. These trees have never suffered from the bursting of the bark, nor from warts.—*Journal of Horticulture.*

Note.—This rule for cultivating cherry trees in grass is now so well-established by proofs of success, that we think fruit growers will do well to adopt it generally.

Currants.

A correspondent of an exchange, writing of small fruits from the banks of the Hudson River, says: In view of the large quantities of currants under way, the conclusion is forced upon me that it will not pay to plant any common sort; none

but the best, and they given the best culture, to bring them to the highest state of perfection. The most successful cultivator here is William Kniffin. He has picked 5½ tons from 1½ acres—2½ tons of Cherry, and 2½ tons of Red Dutch—the former bringing from twelve to twenty cents per pound, and the latter considerably below. He paid out for picking over \$100.

New Pears.

A writer in *The Gardener's Chronicle* enumerates all the varieties of pears raised in England. The list numbers fifty-two, of which twenty-nine are first-rate, eighteen second-rate, and five third-rate; also twenty-five varieties that have been raised in Scotland, all second-rate, and 120 varieties raised on the continent, since 1850, all first-rate. Besides the above, about fifty other new varieties have been imported since 1869, so that during the last decade, above one hundred new kinds have been added to our collections. The same writer also states that "although I am ashamed, I am constrained to say that I have found the nomenclature of fruit in England very much behind either America (from which I have 150 sorts of pear) or the continental nations from which I have imported nearly 1,200 kinds—very few of which belie their names."

Tulips for In-door Culture.

The Gardener's Magazine says: "When grown in pots, tulips are treated precisely in the same manner as the hyacinth, but several bulbs are placed in a pot. When required to fill epergnes and baskets, and other elegant receptacles, it is a good plan to grow them in shallow boxes, as recommended for crocuses, and transfer them when in flower to the vases or baskets. In common with hyacinths and crocuses, they may be taken out of the soil in which they have been grown, and the roots washed clean, and inserted in glasses for decorating the apartment. For general usefulness, the early tulips are the most valuable of all, because of their many and brilliant colors.

Garden Walks.

To make good dry walks, that may be used with pleasure and comfort at all times, take three parts screened gravel, one part flour of lime (previously riddled), add as much coal tar as will make it of the consistence of stiff mortar; if the tar is heated, it will be easier to work. For ordinary garden walks, this should be laid on from two to two and a-half inches thick; it should be slightly thicker in the center than at the sides, which should be one inch below the edge, the center of the walk being the same height as the grass edge.

Smooth over and beat the surface with the back of the spade as the work proceeds. If the black color be an objection, take three parts of sand and one part of lime, mix well together, and sift a little over the surface while still moist, and roll well. Walks made this way have lasted with us over 13 years, and are as good as ever. Care must be taken to have them laid upon a firm basis. These walks have a great many advantages over ordinary gravel walks; they are always dry, grow no weeds, and are much more easily swept. Wheeling of manure and soil can be done at any time, and very much more quickly and easily.—*Foreign Exchange.*

The Purple Cane Raspberry.

It possesses more than any other the true flavor of the raspberry; it is full one week earlier than any we know of; it is hardy; it is productive; it carries well to the market, and is always saleable. Only give it the same attention bestowed upon others, and our word for it you will agree with us that none excels it in the earliness of its ripening, in its delicious flavor, or its popularity in the market. After cultivating it for thirty years, this is our opinion of the Early Purple Cane.—*German-town Telegraph.*

Gardening near Charleston, S. C.

The Irish Potato is a profitable early crop on Charleston Neck. On one farm of ten acres, there were raised 1,050 bbls., which sold at an average of \$5 per bbl., or \$5,250 for this small farm. Another farmer realizes \$15,000 annually from his potatoes only, having as much more land in other vegetables.

Irrigating Strawberry Beds.

In dry seasons, the produce of a strawberry bed may often be increased twenty-five to fifty per cent, if the soil can be well irrigated. We observe that a Georgia grower has adopted means of this nature to provide against a drought. He has erected a windmill, which pumps up from five to eight gallons a minute. At that season of the year—mid spring—there is usually wind enough to turn it. Erected on the crest of an elevated part of the place, it will supply the field in any direction. The cost is but \$250.

The Ananas D'Ete Pear.

Near New Orleans, this pear is mentioned as first on the list for productiveness, size, color and flavor.

Select List of Roses.

The following are recommended by *The Ruralist* as the best of their class:

Tea Roses.—Gloire de Dijon, Sombrieul, Marshal Neil, Madame Brevay, Devonensis.

Noisettes.—America, Washington, Woodland, Margarette Fellenberg; all are profuse bloomers and hardy.

Remontants, or Hybrid Perpetual.—Victor Verdier, Maurice Bernardin, Count Cavour, Cardinal Patroglia, General Washington, Madame Victor Verdier, Geant des Battailles, Madame Marow, Jules Margotten, Princess Mathilde, Leon Verger. This class is generally exceedingly hardy, many of them being first class bloomers, especially the Giant of Battles.

The Bourbons are undoubtedly the best for small collections, and, with few exceptions, are constant bloomers. Hermosa, Omer Pasha, Souvenir Malmaison, Imperatrice Eugenie, Countess de Brabant, Mine de Bosanquet, George Peabody.

Picking Strawberries.

Women, as a general thing, are the best pickers, more careful than girls or boys; but whoever may do the picking, tell them how you want to have it done—send careless pickers away as soon as you find them out, and give the good ones an encouragement by paying higher rates to those that do the best work—uniform rates are impossible. In the neighborhood of Cincinnati, prices range from one and a-half to two and a-half cents per quart.

Provide your pickers with a light box (with handles) containing two or four quart baskets; teach them not to touch the berry, but take the stem between the thumb and forefinger, and pinch it off with the finger nails, which should be kept longer than usual for that purpose. The large berries go in one basket and the smaller ones into another, the latter, if more convenient, to be emptied out into half-bushel drawers—bushel drawers being less advisable. See that your rows are picked clean, but that no rotten or half-ripe berries are thrown into the basket; careless pickers to fill up will do this often, and the sooner they are discharged the better; the fruit must run uniform, and by attending to this a reputation can easily be established that will command a good price, even if the market is overstocked.

Never pick after a rain or when the dew is on, if it can be avoided, as the berries will keep better; see that the baskets when full are kept in the shade, and as soon as one or more crates or drawer-stands are filled place them in a cool cellar, if they are not to be shipped at once.

Large Duchess Pears.

The premium pears, exhibited at the American Pomological Society's meeting in Richmond, by G. F. B. Leighton, of Norfolk, averaged two pounds each—a record, we believe, not equaled or exceeded in any other part of the country.

Unprofitableness of Peaches.

The present unprofitable condition of peach culture can not be better illustrated than in the case of a gentleman of Cambridge, Md., who sent to market peaches to the value of \$2,169, but only received net \$266.18, the difference having gone for freight and commissions. When will growers learn that there is a limit to fruit production?

Dwarf Pear Trees.

The testimony of Southern growers seems to be uniformly in their favor, notwithstanding the efforts of some writers to run them down and pronounce them a failure. Sagacious cultivators, however, plant the trees low, so that the union of pear and quince stocks shall be a couple of inches below the surface of the ground. In this way they all in time take root from the pear stock, and become virtually permanent standard trees. Their growth then becomes stronger and more thrifty, and uniformly growing more productive yearly. Their advantage over large standard trees is that they make an early growth and quick fruiting, throwing the tree almost into immediate bearing. The following varieties have all done well on the quince stocks in the Middle and Southern States: Duchesse d'Angouleme, Louise Boune de Jersey, Vicar of Winkfield, Beurre d'Anjou, Howell.

A Prolific Pear Tree.

A single branch of the Vicar of Winkfield pear, cut from a tree grown in Cape May Co., N. J., was found to have 65 pears on it.

Roe's Mammoth Quince.

The American Rural Home regards this with favor. "We have watched it for some years, and find that it averages about one-third larger than the common orange quince, and is uniformly fair and excellent in quality. It is quite inclined to the pyriform shape. Specimens received from Ellwanger and Barry weigh $2\frac{1}{2}$ ounces. On their grounds it is a good grower and prolific bearer."

Manuring Fruit Trees in the Fall.

Which is best? One cultivator thinks the fall is best, for the trees will find the fertilizing material more dissolved and ready to take up at the next spring for immediate growth. Another disapproves of it, because manure will waste and wash away during the winter. To his mind manure should be applied about the time the tree begins its growth, and then, if washed by rains, it is dissolved at the very time when the tree needs it, and can take it up without waste. Our observation justifies us in saying that the fall manured trees will invariably make the most healthy and satisfactory growth the next season, over the spring manured trees, and so we have uniformly practiced this method with success. We also find that a fall-planted tree will make one-half better growth the next year than a spring planted tree, and keep up the difference each succeeding year. With us fall planting and manuring is about equivalent to one additional season.

Grafting Quince Trees on Pear Stocks.

A skillful horticulturist of Delaware County, Pa., informs *The Practical Farmer* that, having some pear trees which produced only cracked fruit, he grafted on them the common quince, and has those latter of very fine quality, perfectly smooth, and of large size. Are there any others that have tried the same plan?

Crab Apples.

Valuable specimens of crab apples have been received by us from C. Andrews, of Geneva, N. Y. (with Herendeen and Jones), of the Marengo Winter Crab Apple. There has been considerable improvement of this species within a few years, until now they are of a rich, spicy, pleasant flavor, and entirely free from any acidity. The fruit is still of small size, yet very attractive in appearance, usually of a creamy yellow color, with a few dotted here and there with crimson. Most of them are very handsome, and would be excellent table ornaments. They are poor keepers, rotting quickly. There seems now little to be desired in *quality*, for improvements in that direction are already sufficiently successful. We trust some one will now labor for increased size.

New Seedling Grape.

Specimen bunches of the new seedling grape, No. 19, from Ellwanger & Barry, Rochester, have been received. The characteristics are, uniform good flavor, but sweeter just on point of ripening than when dead ripe. Berries large, deep amber color, in some seasons liable to drop from the bunch, especially if fully ripe. Pulp large, seeds large and loose. Skin quite bitter, less so if fruit is eaten before fully ripe. Juice of a high vinous quality, resembling in some respects hybrids with foreign varieties.

Plants in Wardian Cases.

The *Gardener's Monthly* says, that in a true Wardian case there is very little growth, a plant simply *lives*. If it *grew*, it could do so only by the decomposition of carbonic acid, and this would cause such a dense mass of oxygen in the atmosphere of the case, that the act of growth would be its own destruction. There are three essentials to growth—light, heat and carbonic acid; by supplying the two former only, the plant simply *lives*, and does not *grow*; hence a plant will remain an indefinite time in a closely glazed case in this way. Fern cases are not Wardian cases, nor are the plant cases often called Wardian. Air is partially admitted, and thus the plants actually do grow.

Downing's Selected Fruits.

This is an abridged edition of the larger work, containing some four hundred illustrations, and the contents divided into thirty-two chapters, eight to propagation, training, transplanting, soil and insects, and remainder to the varieties of fruit. Its price, \$2.50, will make it very acceptable, as it contains all the leading kinds of fruit to which the ordinary fruit grower has need of reference. Published by Jno. Wiley & Sons, N. Y.

Value of Irrigated Lands.

Land under irrigation in Spain, sells for \$500 per acre, while that by its side not irrigated, will hardly bring \$50. A company organized in Madrid, with a capital of \$1,500,000, has reclaimed 300,000 acres of land, and is paying dividends equal to 18 per cent upon the investment.

The Enemies of the Rose.

"One of the worst enemies is the *Aphis rosa*, which sometimes covers all the young branches and exhausts the sap from the tender leaves and shoots. The female *aphis* produces her young throughout the entire year, and is particularly active on plants which are kept in warm rooms. These are most effectually destroyed by brushing them with a soft brush into a basin filled with tobacco juice. They may also be killed by fumigating with tobacco smoke or the vapor of burning solanum and tomato leaves; but it is advisable to sprinkle the plants well with water, so that the atmosphere may not become too dry from the effect of the fumigation. Another very troublesome insect is the *red spider* (*acarus tetarius*) which is generally found on the under side of the leaf. It sucks the sap from the leaves, which drop off, and

the plant appears in a sickly condition. This pest may be destroyed by sprinkling the plants, and particularly the under side of the leaves, with soot dissolved in water; this remedy is at the same time a good fertilizer."—*California Horticulturist.*

The Williams Red Apple—A Profitable Orchard.

The *Boston Cultivator* gives an account of the orchard of Capt. Pierce of Arlington, Mass., consisting of eighty-six trees, thirty-eight being of the Williams Red. These trees have averaged over \$600 per annum. The orchard is cultivated in the best manner, the spaces between the trees being occupied with potatoes and squashes. He has no faith in growing trees in grass.

Preserving Flower Stakes from Rot.

I have now in my possession flower stakes which have been in constant use for over nine years, and their points are yet perfectly sound and good. I take common coal tar and bring it to the boiling point in a kettle some ten to twelve inches deep; I then place the lower part of the stake in the boiling tar, immersing it as deeply as the pot will allow. After they have remained therein about ten minutes, I take them out, allow the surplus tar to drain off, and roll the tarred portion in clean sharp sand, covering every part of the tar. After they have become perfectly dry, I give them another coat of tar, completely covering the sanded part. Then, after being thoroughly dried, they will last for years. Some of them I have painted three times with lead and oil paints on the upper part, and they are ready for the fourth, while the lower portion is still sound and good. To treat a lot of stakes in this manner costs but little and pays well, as it saves a great deal of future labor and annoyance.

—*The Technologist.*

Illinois State Horticultural Society.

The annual meeting of this Society will be held at Jacksonville, Ill., December 12 to 15, instant. It will doubtless be a very interesting session.

Horticultural Notes.

The Night Blooming Cereus.

Four buds of a night-blooming cereus in a conservatory in Trenton, New Jersey, gave indications, a few weeks ago, of sudden flowering. So marked was this, that between morning and evening of one day the buds actually grew four inches in length. Such a rapid enlargement naturally excited the interest of the owner, and a few friends were invited to witness the unfolding of these strange blossoms. At ten o'clock at night the unsightly plant still held the buds in durance close; but at eleven there was a mysterious movement, a sort of struggle for deliverance, and four magnificent beauties suddenly expanded into floral life, sending out such volumes of rich perfume that the spectators were oppressed by its superabundance. Before the morning dawned every fair blossom had drooped, shriveled, and died. Not the slightest trace of them remained, not a vestige of form or fragrance lingered—all had vanished as a dream.

Chinese Wisteria.

No plant, says *The Prairie Farmer*, is easier of propagation than this. Even at this late period, if the plant is still growing, you can lay down a shoot of this season's growth, and bury a portion, leaving the end up. It would facilitate the rooting to notch the part which is to be covered; simply cutting through the bark at several points, is all that will be required to induce a free emission of roots. May is the proper month in which to do this work, and it is possible that roots made after this will be rather succulent; but a little litter thrown over the ground late will protect them from injury during the winter.

Currant Cuttings.

We notice that some very careful directions are given about setting out currant cuttings in the fall. But why in the fall? We should say that spring was much to be preferred. If set out in the fall, they are liable to become loose in the freezings and thawings of winter; but if in the spring—say early in April for this section—there is no difficulty about it at all. If the new wood is only taken, set firmly in the ground six to eight inches, and well pressed with the foot, watered when necessary, and mulched when hot suns come, ninety-nine out of a hundred will grow. But remember if you want to raise trees, cut out every eye going into the ground; but if bushes, which are the most lasting as well as most productive, set the cuttings as you take them, and from every eye a branch will come forth. This is the way we do in our own garden. Properly set out, cuttings will bear fruit the succeeding year.—*Germantown Telegraph.*

Profits of Grape Culture in Missouri.

George Long, in writing to *Coleman's Rural World* gives his experience with grapes the past season, as follows:

I have twenty-five acres under charge, of which there were 8,400 vines in bearing, mostly Concord, Norton and Hartford. From these 8,400 vines I gathered and shipped to St. Louis and various other places, fifty tons of grapes, and a good many thousand pounds went to waste by the birds and by gathering. I made the first shipment of Hartford on the first of August. Could have shipped a few pounds on the 25th of July.

To gather this crop, I kept employed five hands, four as pickers and one teamster. I used the three-drawer crate, that would hold from ninety to one hundred pounds of grapes. Had stands made to slip one of these drawers in, to carry in gathering. Each man could take one of his stands put in his drawer, and take a row of vines, and after filling his drawer would take it on his shoulder and bring it to the packing shed, leaving his stand where he left off picking. This saves much time in looking for the place where you left off, and also keeps the bottom of the drawer clean, as one has to go on the top of the other, in the crates, for shipping. One man would pick from five to nine crates per day, and bring them to the shed. I have three miles to haul them to the station. Would make three to four loads per day. Would take 1,000 pounds to the load. Now for the cost of running this vineyard, with the very best cultivation:

A vineyardist one year.....	\$700
One man, eight months, \$80 per month.....	240
Teamster, two months, \$20 per month.....	40
Three pickers, by the day	100
Cost of team, wear and tear	100
Commission on sales.....	700
 Total expenses	 <hr/>
Sold fifty tons of grapes at 7 cents per pound, amounts to.....	\$7,000
Now taking out the expense	\$1,380
 Leaves a profit of	 <hr/>
	\$5,120

If any one has done better than this with the same number of bearing vines this year, I would like to hear from him.

Next year I will have between 16,000 and 17,000 vines in bearing; and if we have a favorable season, I shall have at least one hundred tons of grapes.

Keeping Evergreens in Winter.

An exchange remarks that trees purchased in autumn, and for localities where it would be doubtful if they lived during the winter if planted, can be safely kept in a cool cellar or a damp room, in which the temperature is but little below the freezing point at all during the winter; freezing will not injure evergreens in this situation, if they are excluded from a free circulation of the air, and do not rapidly thaw again.

The small sized trees should be packed in a manner similar to ours for shipping in boxes, only with tops more open and exposed to the air, and the roots more fully enveloped in earth and moss, or straw, and kept quite wet all winter. We would advise laying them in a horizontal position, with sticks among them in such a way that the foliage will not pack and mat down and become wet and rotten, as it will rot in such a condition. Fully and well cover all the roots with earth and moss, and keep them well wet during the winter, taking care not to wet the tops.

The tops should be damp, neither wet nor exposed to a free circulation of air. A free circulation of air while in this condition will dry out the moisture in the branches and coagulate the resin, which will prevent the flow of sap in the spring; to secure this condition, the tops should be covered with straw, and occasionally dampened a little. As freezing does not injure them, rapid thawing—after freezing—does the harm. They can be safely kept out of the cellar, if carefully protected so that the winds and dry air will not come in contact with the foliage, and yet so free to damp air, so as not to mould and rot, and the roots well covered in soil and moss, and supplied with an abundance of water.

Trees in this manner winter perfectly; and if all the conditions have been strictly complied with, the roots will be found to have formed the granulations necessary to the productions of new spongioles, and the trees, if planted in a wet time, will start into immediate growth.

If trees arrive frozen, they should be thus buried without exposure or thawing.

The Egyptian Beet.

A writer in *The Prairie Farmer* says:—We planted on a southern border, in soil of second year from virgin sod; planted March 3d; May 1st were large enough for the table; by the last of May had fully attained maturity. The top is small; the body is round and smooth; the tap root long, and without fibrous roots. The flesh is juicy, highly colored, being a very dark red, and is tender and crisp. It will no doubt prove one of the very best for early market use, being two weeks earlier than the Early Bassano, but in productiveness it is inferior. In May or June the Egyptian will yield favorably with others, but if allowed to stand until July or August, the Early Bassano, or blood turnip, will double the yield in bushels.

How they Grow Peaches on the Delaware Peninsula.

A committee appointed by one of the South Jersey Agricultural Societies, after visiting Delaware, made the following report:

The trees are set 20, 24, and 30 feet apart; the latter distance not being found too great when the orchard has been five years planted. He found it a difficult matter to drive in an open wagon between the rows when the latter were 20 and 24 feet apart, although the trees were only four or five years old. The trees covered a space of 20 feet in diameter, and averaged 15 feet more in height.

He found evidence that the curculio had been at work among the fruit, although not many peaches had fallen to the ground. It is the prevalent opinion among Delaware growers, that ploughing and constantly stirring the soil among the trees, has a tendency to keep the curculio within bounds.

Successful peach growers do a great deal of work among their peach trees. In the early part of the season they thoroughly plow the orchard, then harrow it, afterwards

cultivate both ways, and then, if any space around the trees is not touched by the cultivator, it is thoroughly worked with hoes to loosen the soil and eradicate weeds. This process is continued into July. Their cultivators are on a large scale, reaching nearly half-way across from row to row, and drawn by a pair of horses or mules. Some of the orchards he visited were 150 acres in extent.

Some of the most intelligent and successful growers never cut back the young growth of wood, as many do in this region. Indeed, Dr. G. returned thoroughly convinced by what he saw and heard that the practice of shortening in the branches is not to be recommended; that it tends to unproductiveness and to the formation of a dense, unyielding, close head, which increases the difficulty of gathering the fruit. Summer pruning, or, indeed, any pruning of the peach tree, is confined, among Delaware growers, to cutting back or entirely removing a few of the lower branches which may be in the way, and thinning out the center of the top in order to let in light and air.

The borers do some little damage to the trees, and are hunted once a year, and that in the Fall. It is the practice to put the land intended for an orchard into a proper condition of fertility before planting the trees; if this is not done, manure is applied afterwards. Diverse opinions and practices prevail as to the necessity of applying fertilizers after the orchard has come into bearing. But one fact may be regarded as certain, viz., all successful peach growers plough, drag, and cultivate their orchards thoroughly, and no grass or weeds are allowed to grow among the trees.

The varieties planted are, Hale's Early, Troth's Early, Early York, Stump the World, Crawford's Early, Oldmixon, and Crawford's Late. A few other sorts might be mentioned, but they are not extensively planted.

Hale's Early has proved a failure thus far with them, on account of its liability to decay before it can be brought to market.

Upon the whole, Dr. G. is of opinion that Vinlanders who have farms of 40 acres and upwards should be able to compete with Delaware growers in peach raising. They should plant, at least, ten acres. The conditions of success, so far as these depend upon human effort, seem to be—

- I. Thoroughly to clear and enrich the soil.
- II. To plant the trees from 25 to 30 feet apart.
- III. *Not to trim the trees*, but to train them so that the plough and cultivator can run close to the tree.
- IV. Corn and potatoes can be raised in the orchard for the first three years with benefit to the trees, provided fertilizers are applied.
- V. After the third year plant nothing, but cultivate thoroughly.

How to make a City Garden.

Take barrels and bore holes around the middle, and one hole large enough to admit the nose of your watering pot. Fill the barrels with stones as high as the rows of holes, and fill in with good, rich, fine earth to the top, in which plant cucumbers, melons, squashes, tomatoes, etc. One barrel will be enough of each kind.

Be sure to have one flat stone lean over the large hole, where you will pour in water until it runs out of the holes you have made, and which will prevent the earth from filling this large hole up. Range the barrels around your yard, and plant your seeds. Keep the barrels filled with water up to the holes, and you have all the requisites for rapid, healthy growth, air, heat and moisture. You can raise all the vegetables you will need, in the greatest perfection, and which will last until late in the autumn, as they can easily be covered on frosty nights. Cucumbers and tomatoes may hang over the barrels, cutting them off when they reach the bottom. Melons may be tied to the wall fence. The stones have an important service in holding up the earth, and absorbing the heat during the day, which they give out at night, keep-

ing the water at an even temperature. You will be astonished at the result if you have never tried it.—*The Prairie Farmer.*

Arranging Flowers for Bouquets.

It is an art, requiring no small degree of taste and skill, to arrange cut flowers so as to form an attractive bouquet for the vase or basket. It is something, too, which comes to one intuitively, and it can hardly be described in words. However, it may be said in general that the more loosely and unconfused flowers are arranged, the better. Crowding is especially to be avoided, and to accomplish this, a good base of green of different varieties is needed to keep the flowers apart. This filling up is a very important part in all bouquet making, and the neglect of it is the greatest stumbling-block to the uninitiated. Spiked and drooping flowers, with branches and sprays of delicate green, are of absolute necessity in giving grace and beauty to a vase bouquet. Flowers of similar size, form and color ought never to be placed together. Small flowers should never be massed together. Large flowers, with green leaves or branches, may be used to advantage alone, but a judicious contrast of forms is most effective. Avoid anything like formality or stiffness. A bright tendril or spray of vine can be used with good effect, if allowed to wander over and around the vase as it will. Certain flowers assort well only in families, and are injured by mixing. Of these are balsams, hollyhocks, sweet peas, etc. The former produce a very pretty effect if placed upon a shallow oval dish upon the center table. No ornament is so appropriate for the dinner table or mantel as a vase of flowers; and if you expect visitors, by all means cut the finest bouquet your garden will produce, and place it in the room they are to occupy. It will tell of your regard and affectionate thoughtfulness in a more forcible and appropriate manner than you could find words to express. If a small quantity of spirits of camphor is placed in the water contained in the vase, the color and freshness of the flowers will remain for a much longer period. Thus prepared, we have had flowers to keep a week, and at the end look quite fresh and bright.—*The Maine Farmer.*

Soil for Fruit Trees.

It will generally be found that fruit trees in clay soils will be far more thrifty than in sandy or loamy lands. The reasons are plain. A clay soil has more moisture and retains it longer than the others, which are more porous. But if the clay soil is not well drained, and has not a good subsoil, it may prove very injurious from an excess of water. A good loamy surface soil, with clay subsoil, is always desirable, and better than clay undrained.

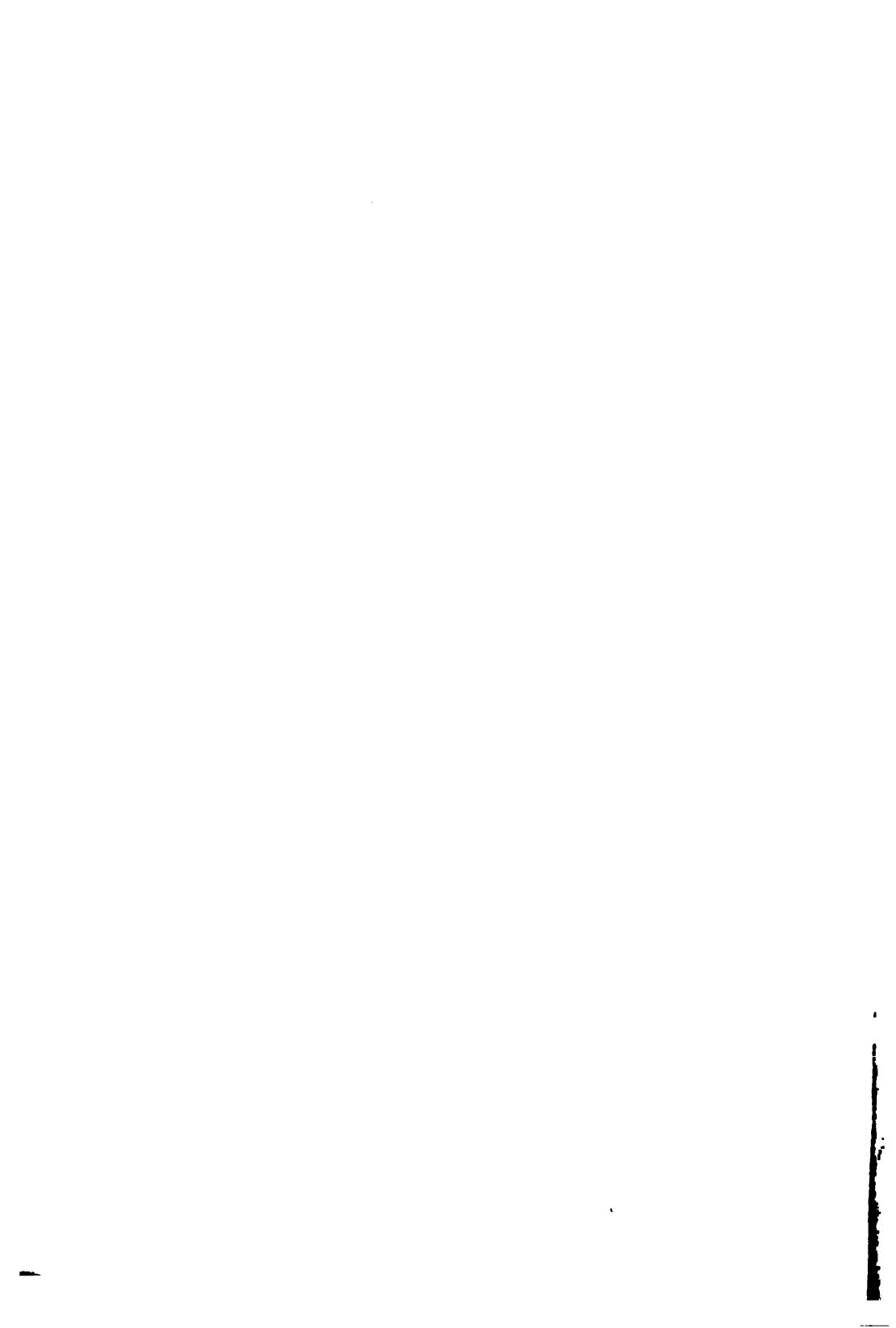
Deep Planting of Fruit Trees and Preventive of Blight.

Out of eight to ten hundred apple trees so deeply set that an ordinary spade thrust square down will not reach the uppermost roots, we have yet to see the first case of bark bursting or blight. We attribute the exemption of our trees from these diseases, or whatever else they may be called, solely to deep planting, and nothing else. We do not know of another orchard about us where the trees are set so deep, nor do we know of one of older or equal age wherein cases of blight or bark bursting have not occurred.—*Western Pomologist.*

Improvement in Southern Fruits.

At a recent meeting of the Potomac Fruit Growers' Association, held in Washington City, Mr. Sanders, superintendent of the experimental gardens connected with the Agricultural Department, said: "They have an idea in Western New York that that is the only region for making fine winter fruit; but that is a mistake. I should say that the hills of Virginia and North Carolina are the best region in the world. In the future, Southern fruits will be taken North for cultivation. The great trouble has been the planting of Northern varieties in the South, but Southern pomologists have of late been paying attention to Southern seedlings, and now they have a list superior to the Northern list. Some day the North will be astonished at the show of Southern fruits."







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